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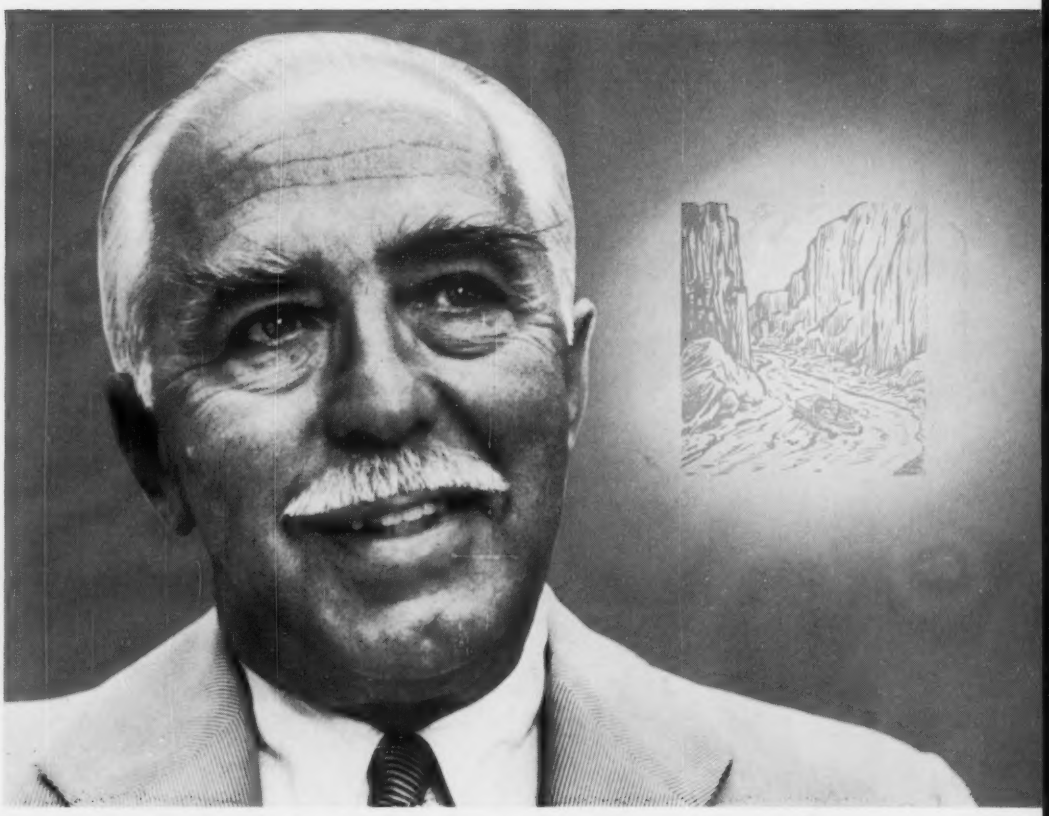

F. E. MASLAND, JR.—He leads a new generation of carpet-making Maslands into new markets—
Story page 33

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Texturized yarns in carpets
Industrial markets for fabrics
The latest in knitting machinery
Dye maker's modern laboratory

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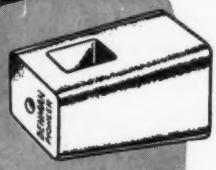

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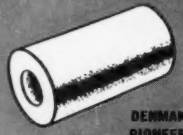

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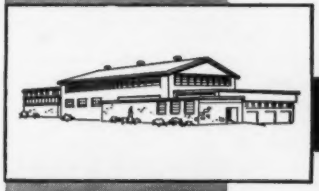

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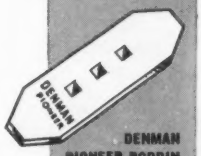

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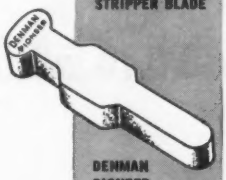

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TEXTILES MAGAZINE *

August, 1957 Vol. 38, No. 8

Modern Textiles Magazine
Established 1925

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The Principal Trade Groups

Man-Made Fiber Producers Association ..... Empire State Bldg., New York
National Federation of Textiles, Inc. ..... 389 Fifth Ave., New York
American Association of Textile Chemists and Colorists ..... Lowell Techn. Inst., Lowell, Mass.
American Association for Textile Technology, Inc. ..... 100 W. 55th St., New York
Silk and Rayon Printers and Dyers Ass'n of America, Inc. ..... 1450 Broadway, New York
Synthetic Organic Chemical Manufacturers Association ..... 41 E. 42nd St., New York
Textile Distributors Institute, Inc. ..... 469 Seventh Ave., New York
American Rayon Institute ..... 350 Fifth Avenue, New York

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AATCC Exhibition Moves Ahead

Exhibit space for the 1957 national convention of the American Association of Textile Chemists and Colorists at the Hotel Statler, Boston, Mass., on November 14, 15 and 16, is better than 50% sold, the AATCC announced. Information from exhibitors already contracted indicate the exhibit will be the most diversified in recent years.

Exhibits will feature displays and demonstrations of dyestuffs, new textile finishes, machinery, instruments, new latex materials, and pigment printing colors. The AATCC anticipates all exhibit space will be sold out shortly.

Plan Socks Promotion

Final plans have been set for an advertising program designed to increase sales of circular-knit hosiery, according to the National Association of Hosiery Manufacturers. The program, in addition to stressing foot health and utilitarian factors, will push the fashion angle. The socks accepted for promotion in the campaign will have to pass standard tests set up by the NAHM.

Funds for the advertising will be raised by an assessment of two cents a dozen on hosiery bearing a "tested and approved" seal which will be applied directly to the socks as a consumer guide. It is expected that the fund will reach about $300,000 on an annual basis by the end of the year.

Although the Association represents 85% of the production in the industry, it was pointed out that non-member manufacturers would be welcome to participate in the program if they could make socks up to the standards established for the program.

New Count of Looms

Looms in place at broad woven fabric mills at the end of 1956 totaled 482,196, three per cent less than the 497,492 looms in place at the end of 1955, according to the Bureau of the Census, U. S. Department of Commerce, Washington, D.C. During 1956 the number of pile and Jacquard looms increased while the numbers for the other major categories of looms decreased.

Cotton and man-made fiber looms totaled 461,784, and woolen and worsted looms 20,412 at the end of last year. At the end of 1955, the looms in place were 475,523 and 21,969, respectively.

Of the total number of looms in place on Dec. 31, 1956, there were 360,059 in cotton mills; 102,268 in man-made fiber and silk mills, and 17,645 in woolen and worsted mills. The decline in numbers as compared with Dec. 31, 1955, for each of these three groups was 2%, 7% and 5%.

Mexican Lurex Company Formed

Formation of Dobeckmun de Mexico, S.A. de C.V., a subsidiary of The Dobeckmun Co., New York, has been announced by Thomas F. Dolan, president of the parent company. The subsidiary in Mexico City will produce and sell Lurex metallic yarns. The manufacture of Lurex will be done in Monterrey by Artifactos de Papel, A.S., under Dobeckmun supervision. Warren Moore will direct sales operations of the new subsidiary. Dobeckmun de Mexico is the third foreign subsidiary established since 1955. Dobeckmun Britain Ltd. in London and Dobeckmun Europa, S.A., in Amsterdam, were organized for the production of Lurex to supply demand from 58 countries.

The word for rayon

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Count on Hartford for a wide range of the finest rayon fiber staple. Count on Hartford for on-time service... a thoroughly dependable source of supply.

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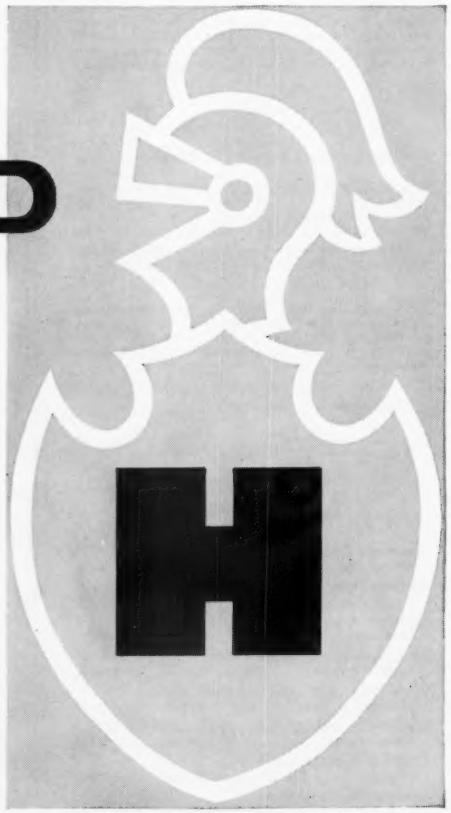
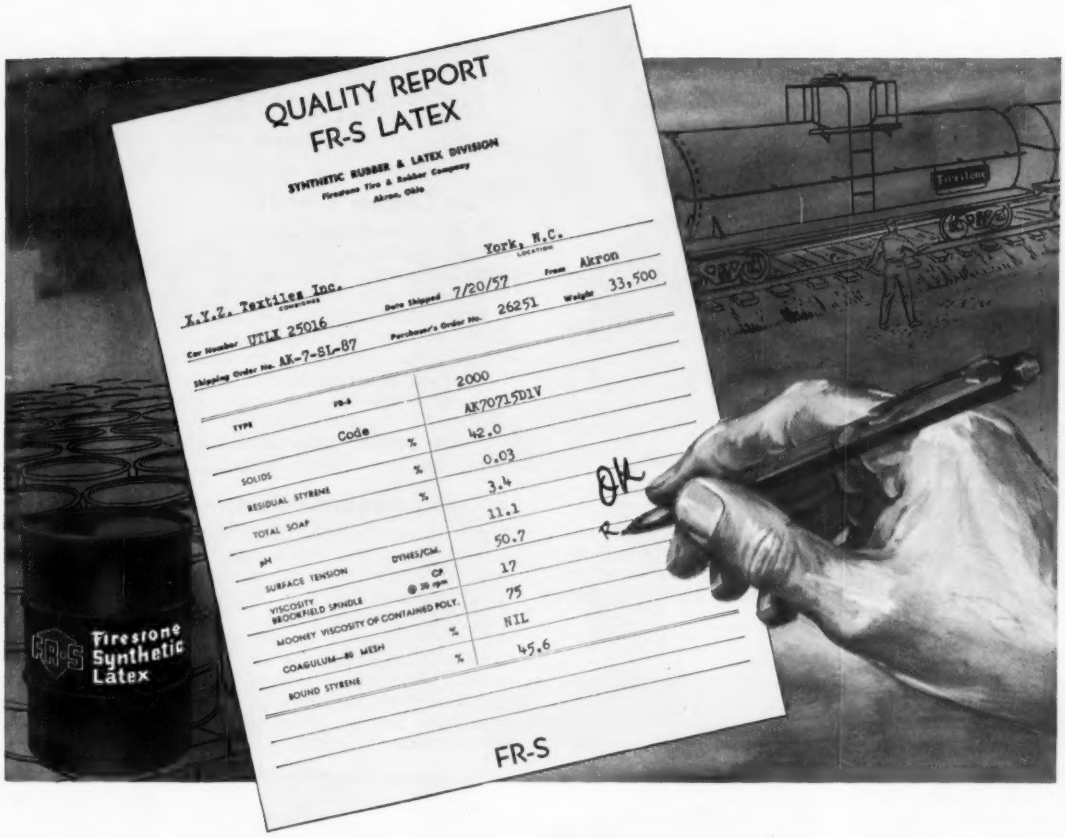


Ever See a Pedigree for Latex?



This Quality Report is the FR-S Pedigree...Your Assurance of Latex that Meets Highest Specifications

This Quality Report gives you a complete picture of every pound of FR-S latex you buy. It accompanies *every* shipment, and summarizes the results of more than 50 different tests that control the uniform quality of FR-S—from the purity of the water that flows into the giant reactors, to the physical and chemical properties of your finished product. It's your assurance that you're getting the finest latex man can make . . . modern latex that meets your most exacting specifications in every respect. Why not learn how FR-S can improve your product — just mail the coupon below:

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BEST IN RUBBER

Urges Careers in Textiles

The Philadelphia Textile Institute has published and is circulating a pamphlet urging high school students to plan for careers in the textile industry. The pamphlet points out that success in any field of interest often starts today with a college education. In textiles, the pamphlet states, such success is aided by a Bachelor of Science degree in textile design, engineering, management and marketing, garment manufacturing, textile chemistry and dyeing, and knitting technology. Further information can be obtained from the Dean of Students, Philadelphia Textile Institute, Philadelphia 44, Pa.

Schwarzenbach-Stehli Merger

The Schwarzenbach Huber Co. has become the sole owner of all outstanding capital stock of Stehli & Co., Inc., New York. This acquisition affects only the American operations of the two world-wide organizations and does not affect their activities in other world markets. Schwarzenbach Huber has weaving plants at Front Royal, Va., and Juniata-Altoona, Pa.; a yarn throwing plant at Luray, Va., and warehousing and shipping facilities at Allentown, Pa. Stehli has a weaving plant at Harrisonburg, Va.

Robert M. Schwarzenbach, president of Schwarzenbach Huber, is the new president of Stehli & Co., with the new board consisting of Robert M. Schwarzenbach, Otto Froelicher, Samuel I. Mandell and Sylvan Gotschal. Robert H. Stehli and William R. Staehelin will join the Schwarzenbach Huber board.

Lowell Awards Degrees

Ninety degrees were awarded by Lowell Technological Institute at its 59th commencement exercises on June 16. Of these 67 were conferred in the fields of textile chemistry, engineering and manufacturing. Honorary Doctor of Science degree recipients included Prof. Emeritus Herbert J. Ball, head of the LTI textile engineering department for 49 years; Paul F. Clark, chairman of the board of John Hancock Mutual Life Insurance Co., and Gov. Foster Furcolo of Massachusetts.

Other presentations included: the AATT award to Frances S. Delaney; the Cotton Medal to Peter G. Popper; the Phi Psi award to David M. Hannon; the Textile Veterans Association award to Richard T. Meserve, and the Dean's Key to H. Kenneth Cohen.

More Cotton Research

Textile Research Institute, Princeton, N. J., has been awarded a contract with the Agricultural Research Service of the U. S. Department of Agriculture to conduct research on cotton fiber properties, it was announced by Dr. Howard J. White, Jr., TRI director. The project, to run for a two-year period under the contract, involves an investigation of fundamental principles of cotton fiber extensibility, its relation to the molecular structure of the cotton fiber, and its translation to the properties of more complex textile structures such as yarns.

Stevens Acquires Forstmann

An agreement has been reached with J. P. Stevens & Co., Inc., for the acquisition of all outstanding capital stock of Forstmann Woolen Co. and Julius Forstmann & Co., Inc. The announcement was made following a meeting of the Stevens board of directors. John P. Stevens, board chairman, said the Forstmann Woolen Co. "is the outstanding manufacturer of fine woolens and worsteds. The affiliation of this name and manufacturing skill with our organization will, we believe, add to the diversification of our present operations."

for LOWER COSTS

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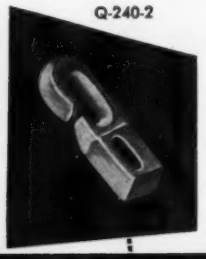
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MOH'S hardness 9.5
Specific Gravity 3.80
Water absorption... 0.0 impervious
Safe operating temperature. °C1500 °F2800

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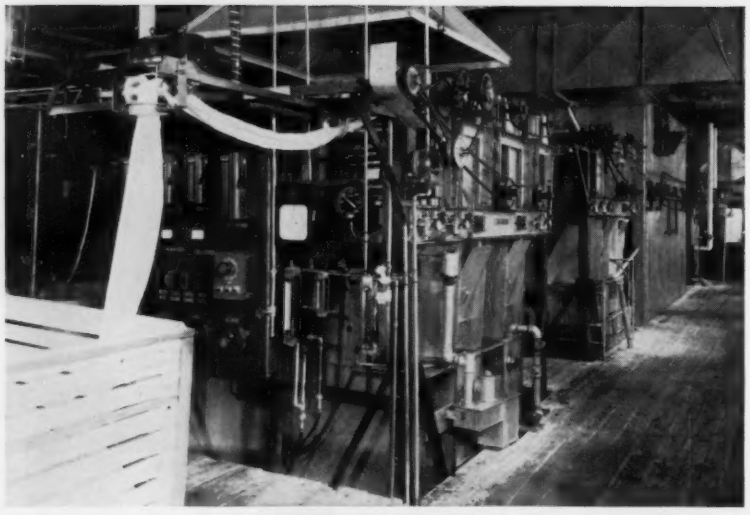
. . . a fabric that takes the wanted color with precise and unquestioning obedience.

. . . a fabric that will cling to its color through sun, soap or smog.

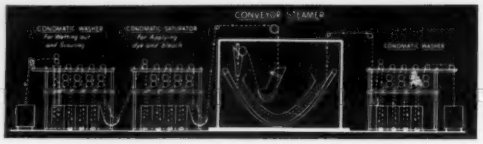
. . . a fabric that can be finished and textured and tailored however you wish.

Such a fabric is made of Avisco rayon. Promoted with the Avisco Integrity Tag, it assures both converter and retailer that it has met strict standards and will perform as claimed. For details, call LA 4-7200 or write American Viscose Corp., 350 Fifth Ave., New York 1, N. Y.

Another PROCTOR continuous bleach range at work for P. H. Hanes



▲ The second Proctor Continuous Bleach Range —recently installed at P. H. Hanes Knitting Company of Winston-Salem, N.C.



This Proctor Continuous Bleach Range was put into operation at the P. H. Hanes Knitting Company of Winston-Salem, N.C., early this year. The Hanes management was so impressed by the outstanding performance of their first Proctor Range that they turned immediately to Proctor when additional capacity was needed.

Like so many other textile manufacturers, Hanes relies on the name Proctor, for it means dependability, economy and complete processing satisfaction. They know that Proctor equipment means more opportunity for profit.

- Re-runs eliminated
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- Cost savings up to $17.00 per 1000 pounds bleached
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Manufacturers of Textile Machinery and Industrial Drying Equipment

For the DYER and FINISHER

Wool Dyeing Help

"Microscopical Studies on Wool Dyeing — Longitudinal Sections," Technical Bulletin No. 845, has been prepared by American Cyanamid Co. Research and preparation of the bulletin was handled by H. E. Millson, at the firm's Organic Chemicals Division, Bound Brook, N. J. *Free copies are available by writing the editors.*

Wash-and-Wear Garment Care

Careful attention to special seaming and sewing techniques are of prime importance in altering new "automatic wash and wear garments," according to technical bulletin X70 (April, 1957), issued by Du Pont's Textile Fibers Department. The bulletin deals with the busheling of clothes which contain high percentages of Dacron polyester fiber or Orlon acrylic fiber. Such garments may be washed, tumble-dried in many modern dryers, and worn again with little or no pressing required, according to the company. *Free copies are available by writing the editors.*

Towel Laundry Study

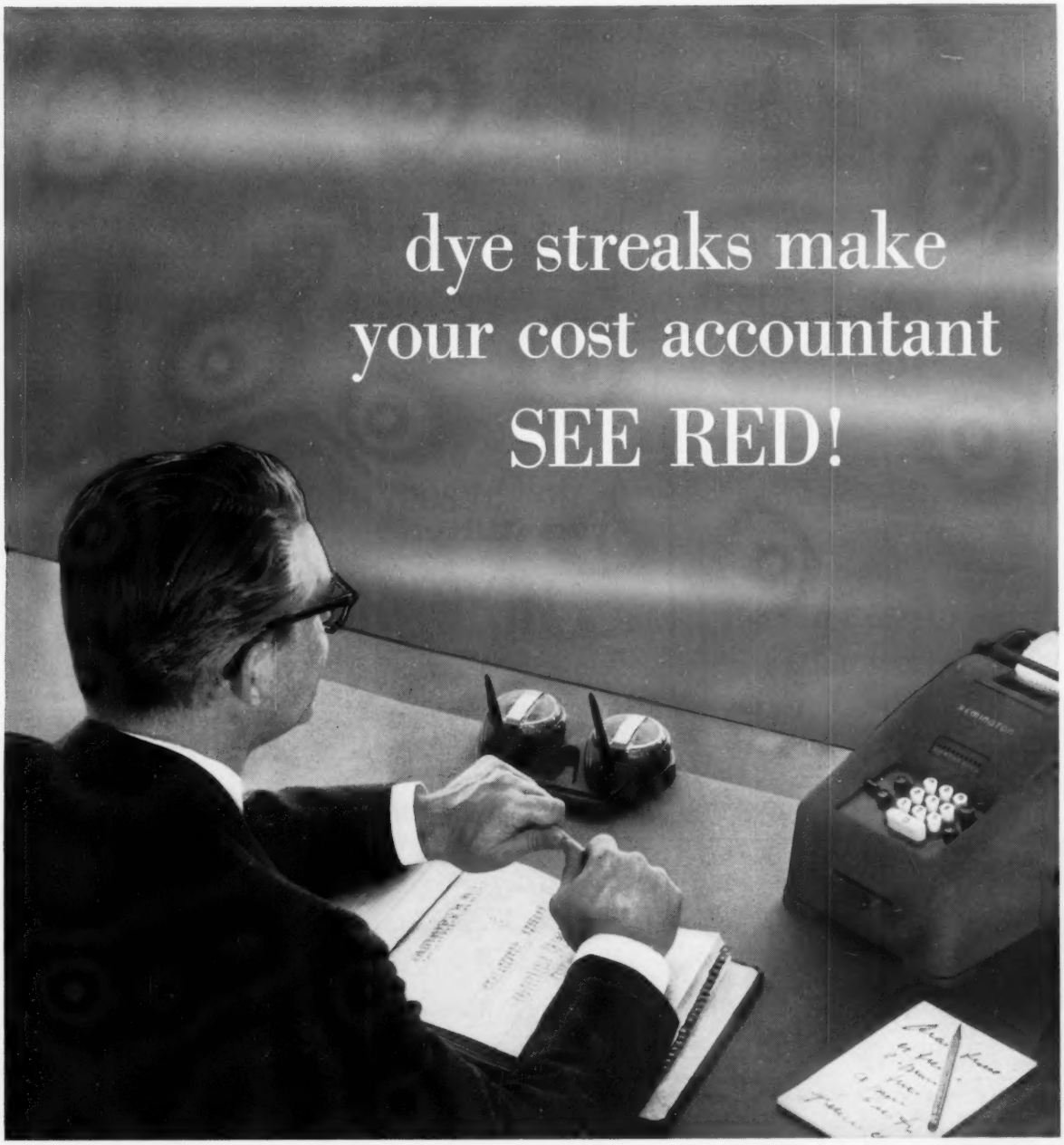
Bulletin No. 19, on the "Absorptive Properties of Bath Towels," is now available from the Department of Clothing, Textiles and Related Art, School of Home Economics, University of Alabama, University, Ala. The absorptive properties of 11 white cotton bath towels, in a range of weights, were studied after a varying number of launderings, from 1 to 100. The study showed that as the weight per square yard increased there was a corresponding increase in the quantity of water absorbed.

Silicone Data Published

"The Industrial Chemistry, Properties, and Applications of Silicones," the Edgar Marburg Lecture by Charles E. Reed which was presented at the 1956 annual meeting of the American Society for Testing Materials, has been published in booklet form by the ASTM. Copies, priced at $1.50 each, may be obtained from the society at 1916 Race St., Philadelphia 3, Pa.

Gum Arabic Solutions

Laboratory reports which contain informative data on the preparation of clear solutions from various types of gum arabic, are available from Morningstar, Nicol, Inc. Gum arabic finds uses in adhesives, coatings, sizings, chemical specialties, foods, drugs, and the graphic arts industry. The data sheets list all applications and properties.



Your cost accountant is truly a fortunate fellow—he works with only *two* colors. Red is bad, black is good.

But now IRC Continuous Process Rayon can make all *your* color-work good—in fact, nigh on to perfect! The reason: Continuous Process Rayon is the only yarn spun, bleached, washed, dried, twisted in one continuous sequence. It's so uniform, every inch dyes the same as every other inch...evenly, with the same color density.

That's why IRC Continuous Process Rayon is the first choice of critical-fabric weavers. Seconds are cut down drastically. Yet it costs no more than ordinary rayon. Specify IRC for your rayon needs.

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ON TUBES
ON BEAMS

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significant facts to know

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that meets rigid specifications.

versatility

that may well prove the key to more effective, more economical manufacturing.

technical service

that's your assurance you use Poly-Solv's to best advantage.

will one or more of these solvents improve your process?

	Poly-Solv EM ethylene glycol monomethyl ether	Poly-Solv EE ethylene glycol monoethyl ether	Poly-Solv EB ethylene glycol monobutyl ether	Poly-Solv DM diethylene glycol monomethyl ether	Poly-Solv DE diethylene glycol monoethyl ether	Poly-Solv DB diethylene glycol monobutyl ether
Boiling point at 760 mm— °C	124.5	135.1	171.2	194.2	201.9	230.4
Flash point (open cup) °F	115	130	165	200	205	240
Vapor pressure, 20°C	6.2	3.8	0.6	0.2	0.1	0.02
Viscosity (absolute) 20°C—cp	1.7	2.1	6.4	3.87	4.5	6.49

Mathieson Poly-Solv's are completely soluble in water at 20°C; have a color APHA of 15 maximum; are shipped in 4,000, 6,000, 8,000-gallon and compartmented tank cars as well as in 55-gallon resin-lined drums.

Poly-Solv® is a trademark

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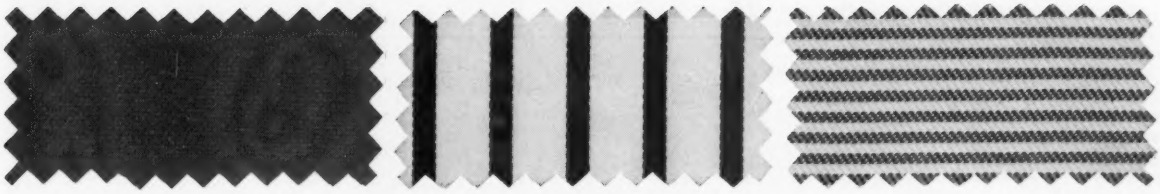
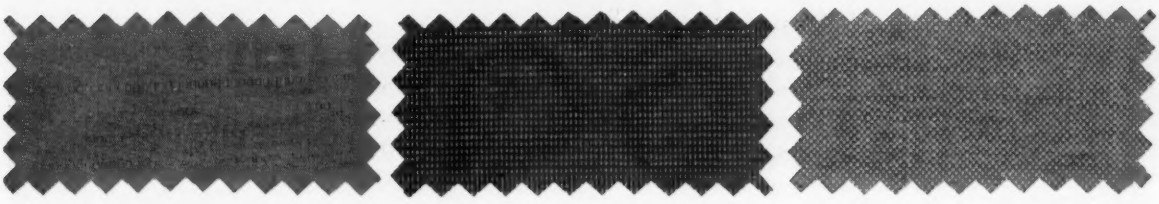
ORGANICS: Ethylene Oxide • Ethylene Glycols • Polyethylene Glycols • Glycol Ether Solvents • Ethylene Dichloride • Dichloroethylether • Formaldehyde • Methanol Sodium Methylate • Hexamine • Ethylene Diamine • Polyamines • Ethanolamines • Trichlorophenol • Surfactants



From crisp classics to superb new basketweaves . . .



from shantung types to soft, textured homespuns

ARNEL SHARKSKIN is proving the best thing to hit spring and summer in years. Its dramatic, and mounting success at retail right now points irrefutably to an even bigger success in spring '58. Every converter and mill man knows that when a fabric ends a season selling stronger every day, it will be a real force the following year.

Arnel Triacetate is currently being used by more than 100 manufacturers. Leading fashion magazines and newspaper editors continue to give their signature of approval in a growing flood of editorials. There is no question but that Arnel sharkskins will be big profit volume runners for spring and summer 1958. For further information, contact Celanese Corporation of America, Textile Sales Division, Charlotte, North Carolina.

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EXPORT Amcel Co., Inc. and Pan Amcel Co., Inc., 180 Madison Ave., New York 16, N. Y.

IN CANADA Chemcell, Canadian, Chemical & Cellulose Co., Ltd., 2035 Guy St., Montreal

ARNEL TRIACETATE A Celanese CONTEMPORARY FIBER

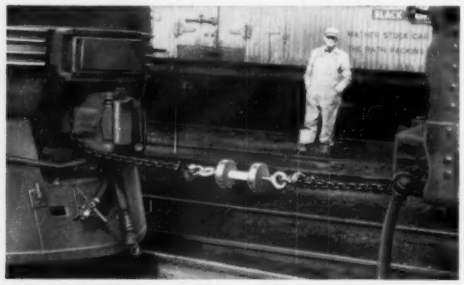
This is the official Arnel symbol—evidence that this fabric of this new triacetate fiber has been pre-tested for performance claimed.

THE NATIONAL SCENE

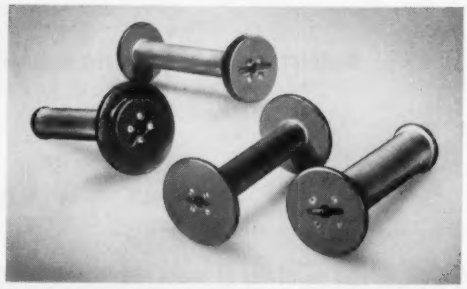
LESTERSHIRE BOBBIN PULLS 357 TONS DEAD WEIGHT—Something new in railroading—and textiles—took place recently at the Wilmington, Del. yards of the B & O Railroad. In a unique test, designed to dramatize bobbin strength under severe tension, a Lestershire Bobbin by National acted as "draw-bar" for 18 freight cars with a total dead weight of 736,700 pounds.

A NEW KIND OF "DRAW-BAR" FOR RAILROADS—Suspended between a three-unit diesel and a 357-ton string of cars, the Lestershire Bobbin awaits its supreme test. No abuse received in service will ever equal the punishment it must take in just a few minutes.

BEGINNING THE SUCCESSFUL TEST—Here, National engineers shackle bobbin into test harness. Bobbin chosen was a Precision Bobbin featuring Lestershire patented anchor screw construction. Heads are made of Vulcanized Fibre, barrel is hard Northern Maple.



THE BOBBIN PULLS—AND HOLDS! The full weight of 18 freight cars fails to pull the Lestershire Bobbin apart. *Reasons:* (1) Unsurpassed materials—hard, dense Vulcanized Fibre combined with hard Northern Maple. (2) Unmatched experience in precision bobbin design and construction.



STANDARD AND SPECIAL BOBBINS FOR EVERY USE. National makes scores of standard bobbin types. And wherever synthetic yarns, larger "packages," and higher rotating speeds demand improved designs, National develops them. Here is your source of bobbins for almost any spindle, speed or yarn in use today.

Send for new, authoritative Bobbin Handbook. The only manual of its kind in the industry. 12 pages of essential data on bobbins—how to choose, materials of construction, types and uses. Yours without obligation. Just write Department DD-5.

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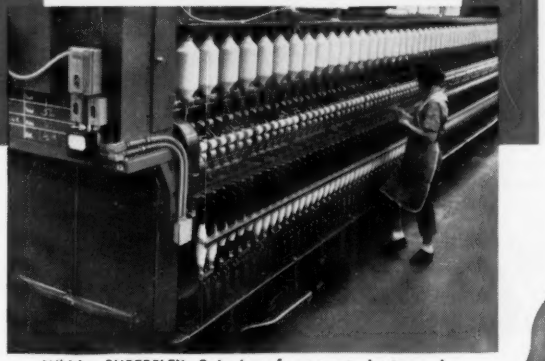
In Canada: **NATIONAL FIBRE CO. OF CANADA, LTD., Toronto 3, Ont.**

This installation of Whitin American System Roving and Spinning frames at Jantzen, Inc., Portland, Oregon, has resulted in savings in floor space, labor costs and power consumption.

Photo courtesy Sterling Electric Motors, Inc.

Whitin 10" x 5" QUIK-SET Roving frames at Jantzen, Inc.



Whitin SUPERFLEX Spinning frames at Jantzen, Inc.

Photos courtesy Jantzen, Inc.

Are you keeping machinery *that can't earn its "Keep"?*

...then you're losing the Profit Potential of WHITIN AMERICAN SYSTEM EQUIPMENT

The policy of harboring old out-dated equipment on the premise that it has a "few good years left in it" is dangerous! Regardless of how it may be *hidden* in the cost sheets, machinery that is not competitive is a liability!

Leaders in the industry — world-famous mills like Jantzen are quick to realize this. In the keenly competitive task of processing fibers for profit, they seek out the latest, most modern and most competitive equipment.

For production, quality, ease of maintenance and simplicity of operation, Whitin American System machinery — the ROTO-DRAFTER, the QUIK-SET Roving frame and the SUPERFLEX Spinning frame — offers unusual competitive advantages in the processing of worsted, synthetic and blended fibers.

To make your operation more profitable — make it Whitin!

The Jantzen Diving Girl — world famous symbol of quality on all Jantzen sportswear

For complete information, ask your Whitin representative — or write direct to us.

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For level, uniform dyeing you want a scouring agent that positively removes all foreign matter . . . and prevents it from redepositing. That's Fantascour GG! It is effective, too, as a dyeing assistant to disperse, retard and level shades. Approximately neutral, Fantascour GG is instantly soluble in water . . . rinses completely and easily . . . won't form insoluble scums and may be used without any alkaline builder for detergent efficiency.
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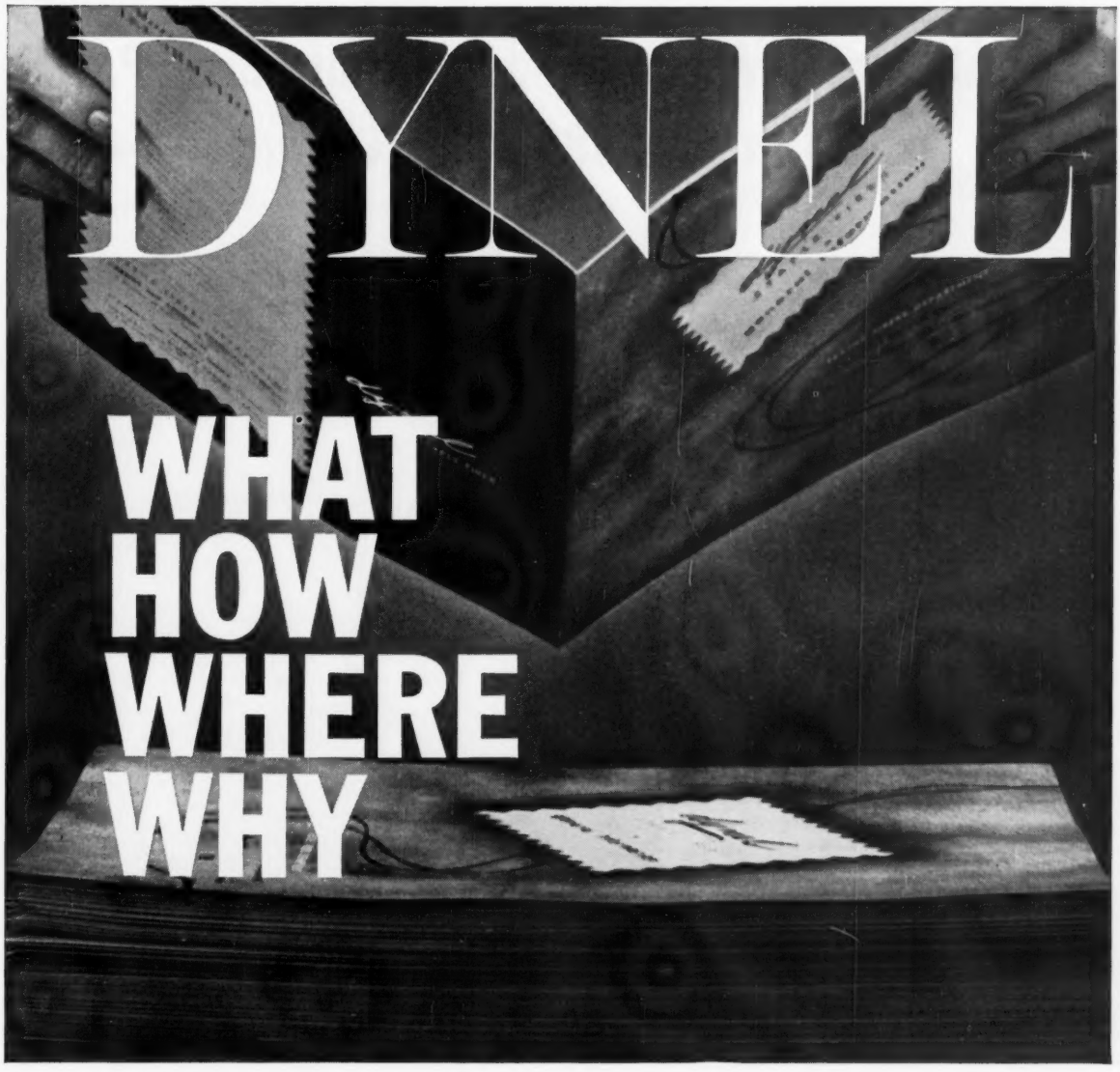

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Less Slippage, More Poundage, Uniform R.P.M. With This 180° Belt Contact

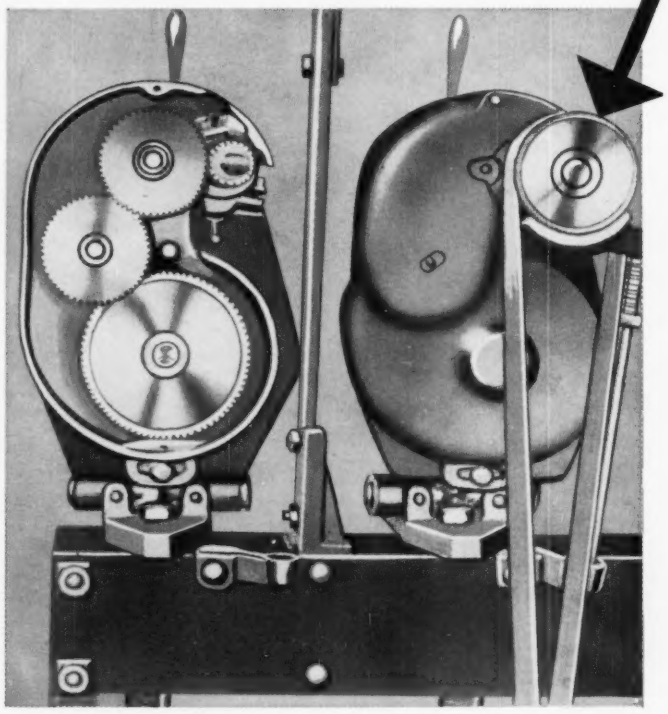


Illustration also shows positive gear driven gainer attachment which controls the ratio between the revolutions of the spindle and the cam.

FACTS ABOUT FOSTER MODEL 75

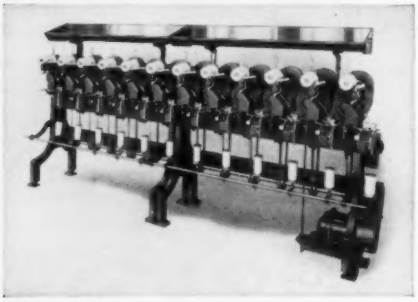
1 HIGHEST PRODUCTION, consistent with good quality. Spindle speeds up to 1500 r.p.m.

2 LOW OPERATING COST. Machine quickly loaded, threaded and doffed. Lifting of convenient handle starts spindle. Durable, positive automatic stop motion.

3 LOW MAINTENANCE & REPAIRS. Floor stands, frames, rails and supply board are made of steel. Spindles are ball bearing mounted. Belts are under tension only when spindles are running. Large diameter, wide angle cam reduces shock and vibration. Tension and pressure adjustments easily made.

4 HIGH QUALITY OUTPUT. Slow starting device prevents stretching and breaking at start. Practically straight thread line (even with oiling attachment) prevents excessive tension build-up. Straight edge cone has slightly convex base to prevent "nipping" when knitting or warping. Foster Zenith Yarn Cleaner provides accurate inspection. Tension automatically compensated for changing yarn speed. Oiling attachment designed to provide uniform application of oil.

Bulletin A-95-A on request



Each spindle on the Foster Model 75 (for winding rayon, nylon, silk and other yarns) is driven by its own belt from a countershaft running the length of the machine. There is a quarter turn in each belt and a full 180° arc of contact is obtained. Result — less slippage which means increased production and uniform r.p.m. of all spindles.

This is only one of many reasons why the Foster Model 75 produces an ideal cone (straight edge or pineapple) at minimum cost for knitting or warping. Other contributing factors are listed herewith.

FOSTER MACHINE CO., WESTFIELD, MASS., U. S. A.

Southern Office: Johnston Bldg., Charlotte, N. C. Canadian Representative: Ross Whitehead and Company Limited, 1475 Mountain St., Montreal, Que. and 100 Dixie Plaza, Port Credit, Ont.; European Representative: Muschamp Textile Machinery Limited, Keb Lane, Bardsley, Oldham, England.

FOSTER MODEL 75

FOR WINDING RAYON, NYLON AND OTHER YARNS

Reference Chart

BEMBERG® RAYON NOVELTY YARNS

TYPE YARN	DESCRIPTION	DENIERS	FUNCTION	COLORS	FABRIC END-USE
NUB-LITE	High-low, non-mechanical, short entangled slub, irregular in size and spacing. (Also specials running part slub, part smooth).	160-200 315-410 600-860	Filling with acetate, silk, or Chromspun warps.	Natural for piece-dyed fabrics. 36 direct skein-dyed colors for loom-finished fabrics.	Lower deniers in dress and blouse fabrics. Heavier deniers for draperies, upholstery, bedspreads.
CUPIONI®	Longer entangled slub, irregular in size and spacing, but mechanically controlled for the Douppioni silk-look.	50-70-100 150-285-450 900	Filling with cotton, acetate, silk or Chromspun warps.	Natural for piece-dyed fabrics. 36 direct skein-dyed colors for loom-finished fabrics.	Fabrics for dresses, blouses, slacks, ladies' and men's suits.
LONG TYPE "A" SLUB	Long, parallel, non-entangled slub for the true thick and thin look. Soft hand.	150-290 460-600 900-1180-2500	Filling with acetate, silk, or Chromspun warps.	Natural for piece-dyed fabrics. 36 direct skein-dyed colors for loom-finished fabrics.	Lower deniers in dress and blouse fabrics. Heavier deniers for draperies, upholstery, bedspreads.
MEASLE YARN	Part tight, part loose filaments with different shrinkage . . . forming loop or boucle effect. In weaving, loops break through surface of fabric for decorative dot effect.	1200-2350 3400	Filling with acetate, silk, or Chromspun warps.	Natural for piece-dyed fabrics. 36 direct skein-dyed colors for loom-finished fabrics.	Lower deniers as filling in dress and blouse fabrics. Heavier deniers for upholstery, draperies, bedspreads.
STRATA SLUB **MULTI-STRATA SLUB** **DREAM SLUB**	Torpedo shaped slubs spaced: Strata, 9' apart; Multi-Strata, 6' apart; Dream, 18" apart.	150-275 450-600-960 1300-2600-5400	Filling with acetate, silk, or Chromspun warps.	Natural for piece-dyed fabrics. 36 direct skein-dyed colors for loom-finished fabrics.	Upholstery, draperies, bedspreads.
FLAKE SLUB	Short, entangled slub similar to flake slubs made with staple yarn.	300-600	Filling with acetate, silk, or Chromspun warps. As multi-colored decorative yarn. Plied with any Bemberg yarn.	Natural for piece-dyed fabrics. 36 direct skein-dyed colors for loom-finished fabrics.	Upholstery, draperies, bedspreads.
FLAIKONA	Part of the end running normal and part running with flake slub. Similar in softness and appearance to other flake, and will run in filling without being plied with a straight yarn.	300-625-900	Filling with silk, cotton, acetate, nylon, Chromspun, Fortisan, Dacron, or Orlon warps. As multi-colored decorative yarn. Plied with any Bemberg yarn.	Natural for piece-dyed fabrics and spun-dyed Cupracolor black.	Upholstery, draperies, bedspreads.

NOTE: CUPIONI — 150-285-900 deniers are available in 14 solution dyed colors.
STRATA — 600-960 deniers are available in 14 solution dyed colors.

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AMERICAN BEMBERG • Main Office: 261 Fifth Avenue, New York 16, N.Y. • Plant: Elizabethton, Tennessee

FULL SIZE 12" x 7" PACKAGE

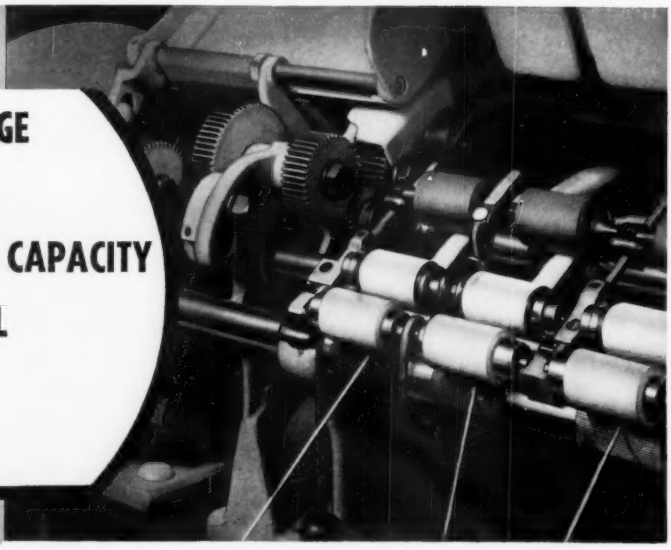
UNEQUALLED PRODUCTION

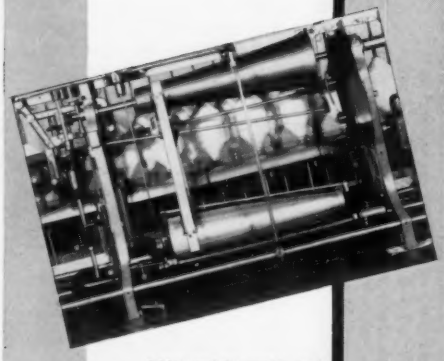
37% INCREASE IN BOBBIN CAPACITY

MAXIMUM FIBRE CONTROL

HIGHEST EFFICIENCY

COMPLETE VERSATILITY





* Net weight varies with bobbin dimensions, twist constant, density of stock, hank roving, the lay, and other local conditions.

A few of the reasons why SACO-LOWELL FS-2 ROVING FRAMES with JUMBO CONES are now more than ever, first choice of the discriminating mill seeking highest quality at lowest cost

Built on a 10¼" gauge, it produces a full size 12" x 7" bobbin weighing more than 78 ounces*, an increase of 37% over conventional 12 x 6 frames.

With the proper stock and suitably prepared drawing, roving, with a C.V. of under 6.00 is a continuing achievement of FS-2 Roving Frames.

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In this highly competitive era, this period of rising costs and dwindling profits, it is imperative that mills spend money only for machinery that produces a result to justify the expenditure — machinery that helps pay for itself through higher production, lower costs and improved quality. Mills everywhere tell us that Model FS-2 Roving Frames do just that — every test against competitive equipment proves it — ever increasing orders for FS-2 are the end result.

A Saco-Lowell engineer will be glad to arrange a demonstration and show you the mill proven figures. Compare FS-2 performance.

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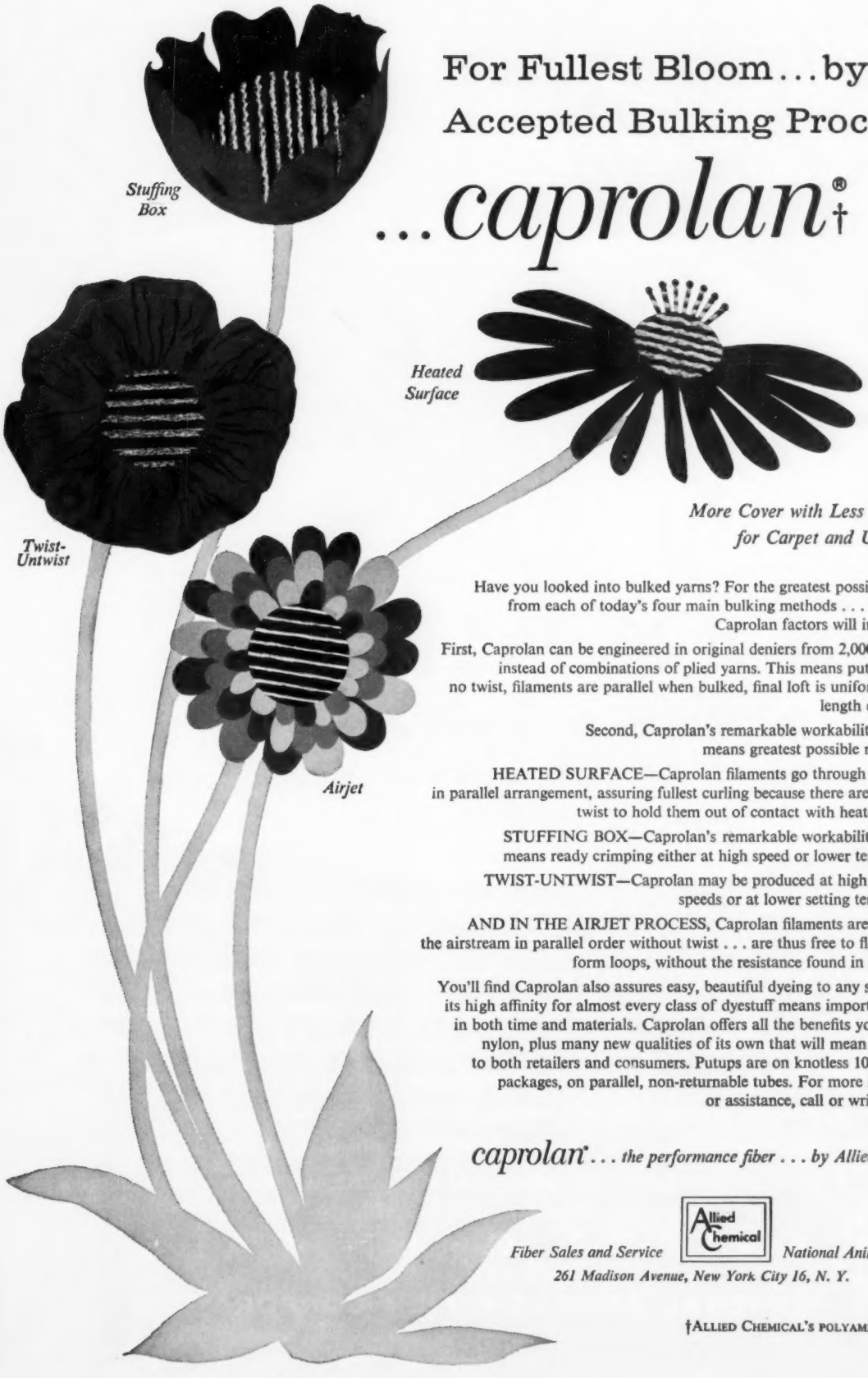

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Have you looked into bulked yarns? For the greatest possible loft . . . from each of today's four main bulking methods . . . two unique Caprolan factors will interest you.

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Second, Caprolan's remarkable workability with heat means greatest possible response in:

HEATED SURFACE—Caprolan filaments go through the process in parallel arrangement, assuring fullest curling because there are no plies or twist to hold them out of contact with heater or blade.

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Improves the Softness, Sewability, and Napping Qualities of Fabrics

SOROMINE AL softens and lubricates cellulosic, synthetic, and animal-fiber yarns and fabrics. It not only imparts a soft, smooth hand, but also reduces fiber-to-metal friction; this serves to prevent "fiber fractures" during high-speed machine sewing and to minimize fabric damage during napping operations. The lubricating action of this compound also facilitates the winding and knitting of yarns. SOROMINE AL can be applied in almost any type of textile-processing equipment, e.g., mangles, padders, jigs, and package machines. Moreover, since it is white and has good resistance to yellowing, SOROMINE AL minimizes fiber discoloration.

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Synthane is light-weight and strong. Synthane is smooth and wear-resistant. It shrugs off abuse; it resists impact, abrasion, crushing, steaming and effects of most commercial sizes and solvents. You may buy Synthane in sheet, rod and tube form or we can machine or fabricate complete parts to your specifications. Write us today for descriptive literature on Synthane laminated plastics. The unusual combination of properties of Synthane will show you why it is such an important product for textile mills and textile machinery manufacturers.

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13 good reasons why "Tergitol" surface active agents and textiles work together

13—that's how many TERGITOL surface active agents you can choose from. This excellent selection includes *eight* nonionics and *five* anionics. So whether you're interested in dyeing, scouring, bleaching, carbonizing, or mercerizing there's a nonionic, anionic, or blend of surfactants to choose from—

TERGITOL Nonionics	*Cloud Point °C.*	*Properties*
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TMN	35-37	Outstanding nonionic wetting agent with good leveling rewetting properties
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Compact and labour saving, simple to operate, easy to maintain—'NELSON' machines are proving themselves daily as the world's finest continuous spinners.

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PATENTS. The "Nelson" rayon continuous spinning machine and process are protected by patents granted to Messrs. Lustrafil Limited, from whom Messrs. Dobson & Barlow Ltd. have exclusive manufacturing rights.

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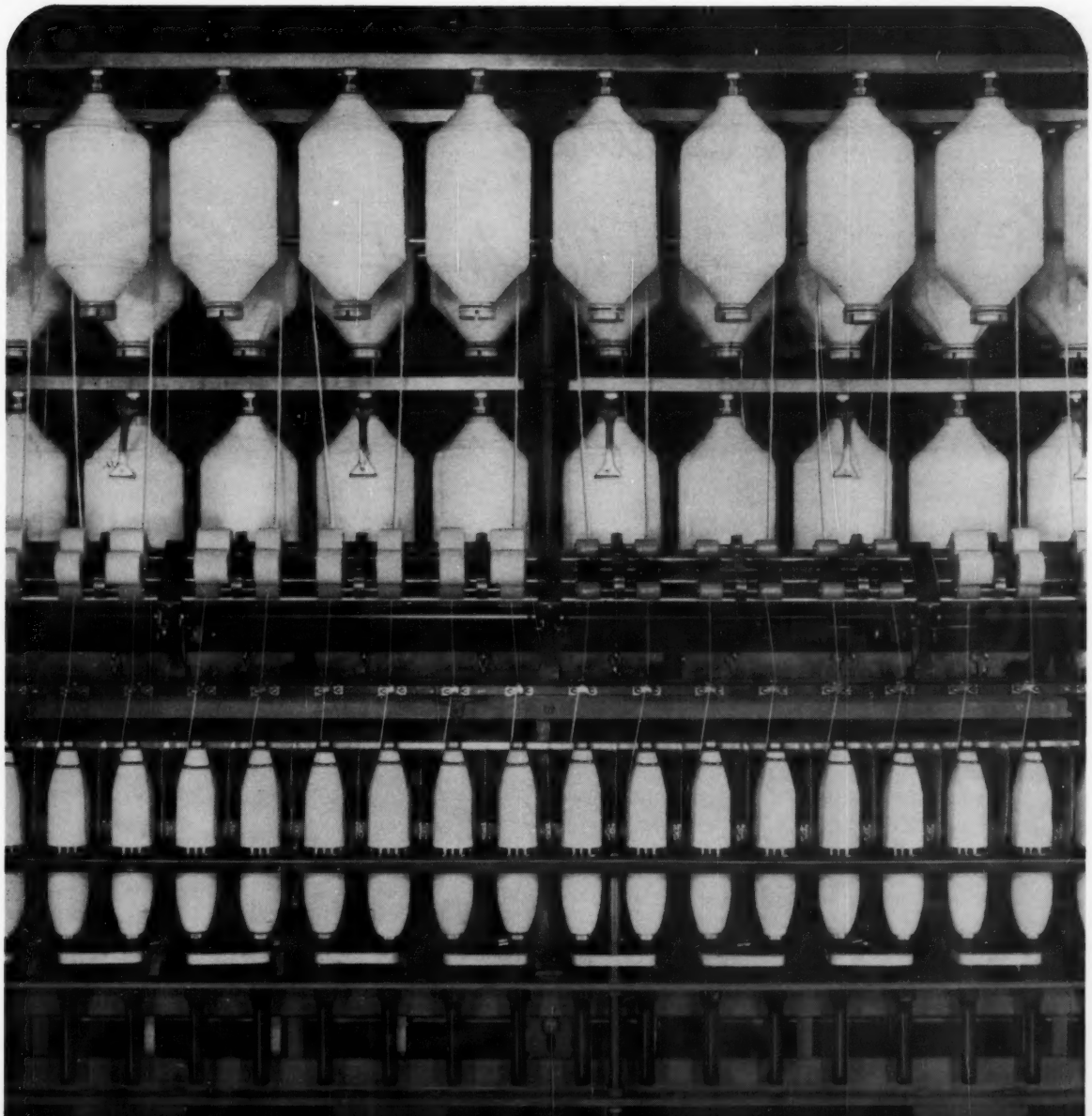

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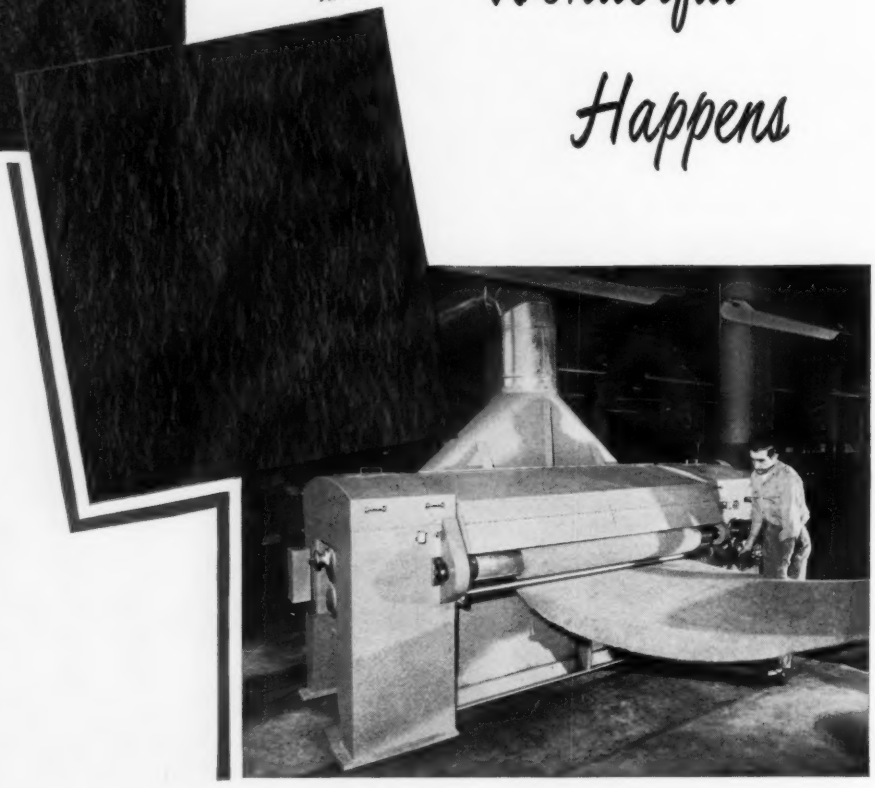

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The pictures tell part of the story — you can see the new texture, the new laid-down finish. But, you have to see the fabric itself to appreciate the rich, vibrant luster achieved in the Turbo Electro-Finisher.

What makes the fabric glow? It's the way the Turbo Electro-Finisher separates and straightens the fibers and lays them down to catch and reflect highlights. The luster will amaze you!

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A Quarter Century of Manufacturing Precision Machines for the Textile Industry

MODERN
TEXTILES MAGAZINE

August 1957
Volume 38 Number 8

Publisher's Viewpoint

Proposed Fiber Content Laws Will Not Help

Congress has in committee several bills which would require disclosure of fiber content in fabrics made of cotton and man-made fibers. In the opinion of most textile industry spokesmen, the proposed laws would do no good for consumers, while imposing on mills, converters, garment manufacturers and retailers harassing burdens of work and unnecessary expenses in providing labels. The whole matter was carefully reviewed recently in New York City at a meeting sponsored by the National Association of Shirt, Pajama and Sportswear Manufacturers.

Virtually all the speakers made the point that compulsory disclosure of fiber content would benefit the consumer very little while the expense of adding such labels to textile products would increase their price—an increase that would have to be passed on to consumers. One speaker, presenting the viewpoint of the mills, pointed out that there are many things beside fibers that go into making a successful textile product—"twist ratios, rate of speed of spinning, ends and picks, and the relationship between them, shrinkage, dyeing and finishing, and thereafter types of thread and trim used in end products—are all contributing factors toward the all-important thing which is the degree of satisfaction that will be given to the customer".

Another speaker, representing the drycleaning industry, said that, to the drycleaner, "fiber disclosure alone means very little as he must know differences in color and finish behavior as they vary between different colors and dye types. But the proposed fiber disclosure legislation would be of no help even to the extent this knowledge would be useful to the drycleaner simply because there is no provision in this legislation that the information be made a permanent and conspicuous part of the garment".

It seems to us that the views of the speakers are sound, and that it is virtually impossible for sincere and informed persons not to accept them. In the opinion of many responsible persons in textiles, what is needed is legislation to protect consumers from being deceived as to the durability, maintenance and performance properties of a garment or other textile product. What these people advocate is a Federal law which will attach penalties to the shipment in interstate commerce of textile products bearing labels that misrepresent their properties. And they advocate an enforcement agency that will have the muscle to see that such a law is observed, and to penalize violators.

The key thought in this approach to the problem of labeling is that, as English and Canadian law requires, *truth* should be told about fabrics if anything is told. In other words, the manufacturer of a fabric or garment is required to speak truthfully if he speaks at all about the fiber content or performance qualities of his product.

But if he chooses not to label his product, he is under no obligation to do so and suffers no legal penalty for failing to do so. But failing to provide information about his products, such a manufacturer opens himself to punishment in another and more effective way. He runs the risk of seeing consumers pass up his products in favor of products that are helpfully labelled. In a free economy, governed by the laws of the market, such punishment with its connotation of business failure, is a much more potent persuader toward right conduct with regard to labels than all the cumbersomely administered laws in the world.

A. H. McCullough

PUBLISHER

OUTLOOK IN TEXTILE MARKETING

By ROBERT C. SHOOK, Textile Economist

Textiles may soon get more of consumers' dollars

All through the post-war period textile-apparel sales have been lagging in relation to the increase in consumer income, while sales of automobiles and major appliances have forged steadily ahead. But recently, there have appeared signs of some change in this relationship, which should be favorable to textiles and apparel in the future.

After many years during which appliance producers have been expanding capacity and output, they have suddenly begun to encounter difficulties in distribution. Suddenly it appears that capacity is ample, if not excessive. Substantial inventories accumulated last fall and early this year, and there has occurred a period of severe inventory liquidation. Price cutting has been wide-spread. Currently, the industry is emphasizing price rather than new models or other types of values.

Is There a Shift from Hard to Soft Goods?—Such symptoms—over-production and extreme price competition—are typical of the textile industry, rather than the major appliance industry. To some extent, this condition in major appliances and some other hard lines, may be a temporary one, reflecting the internal position of the industry itself.

There is more than a suspicion, however, that a shifting in consumer demand is taking place. Certainly the accumulated demand for durable goods, which was so stimulating a factor in the early post-war period, has long since been satisfied. The appliance industries maintained their position for a time by bringing out new models and new products.

Are People Buying More "Dress-Up" Clothes?—Meanwhile, however, the consumers' position is also showing a change. Although an increasing number of families are suburban in their dwelling, and are still casual in their approach to many apparel items, the stay-at-home period of the early postwar years seems to be drawing to an end. People are no longer satisfied to sit at home with television but are going out more for entertainment outside the home. Cabaret tax revenues are finally beginning to increase again, and admissions to many other places of entertainment are on the rise.

These changes are beginning to reflect themselves at the retail level. It is probably safe to say that the average family is more extensively stocked with durable goods than it is with textile-apparel items. It also seems safe to say that there is an awakening of interest in clothing as well as home furnishings. With no decrease in the demand for sportswear and casual garments, there is a definite increase in the demand for dressier types of apparel.

Textile Outlook May Improve Soon—The industry will have this in its favor during the second half of the year and beyond. Promotional programs designed to make the consumer more apparel conscious will probably have more success in stimulating sales. From the economic and social viewpoint, the time is ripe for an improvement. With basic producers turning more attention to problems of merchandising and distribution, there is real reason to hope that earlier and more favorable relationships between textile-apparel sales and consumer income can be restored.

A significant factor, moreover, is the prospect that this can be accomplished most readily by emphasis on good styling and quality, rather than on price. If this objective is kept firmly in view, not only sales but profits throughout the industry will benefit.

Are You Pricing for Right Market?—The bystander who looks critically at the textile industry is bound to be surprised at the consistently narrow profit margins at which finished fabrics are sold. With excess capacity substantially reduced, with a corresponding reduction in the pressure to over-produce, it seems that fabric pricing policy should receive a critical review.

(Continued on Page 51)

Dr. Shook, vice president and research director, A. W. Zelomek Associates, Inc., 350 Fifth Ave., New York City.

Texturized yarns in carpets

High denier filament yarns bulked by a variety of new processes promise better carpets at lower cost

By the Editors

THE RAPID ADVANCEMENT in the development of practical techniques for texturization of filament yarns in higher deniers, during recent months, has opened the way to a whole new era in manufacture, design and styling of carpets and other home furnishing fabrics.

For many centuries, textile men have been content to go through the manifold steps that have been traditionally necessary to spin a yarn—opening, blending, picking, carding, gilling, drawing and finally spinning to the desired count. Having lately replaced the cotton boll and the sheep as the prime suppliers of raw material for carpet yarns, the textile chemist soon found himself in the rather fruitless position of having to extrude filaments of infinite length, chop them into bits ranging from 1½ to several inches long, and then go through all the traditional steps necessary to put them back into endless form.

Today, textile engineers and textile chemists have combined their abilities to overcome such frustration. Not only have they found a variety of ways in which to convert the original filament yarns into useful and practical weaving and tufting yarns—without cutting them—but also have come up with a variety of textures which should have a profound effect on the styling and design of tomorrow's carpets.

Unlike the cotton boll and sheep, who are quite limited in what they can do to provide a fiber for a specific end use, today's textile chemists and textile engineers can be quite precise in engineering the raw material to meet the requirements of the end use. As a matter of fact, the boundless ingenuity of modern textile men has been only partly brought to bear in this direction when the broadest possible textile landscape is brought into focus.

The texturization of filament yarns is an outstanding example of how modern technologies can suit a raw material to a specific end use.

What is texturization?

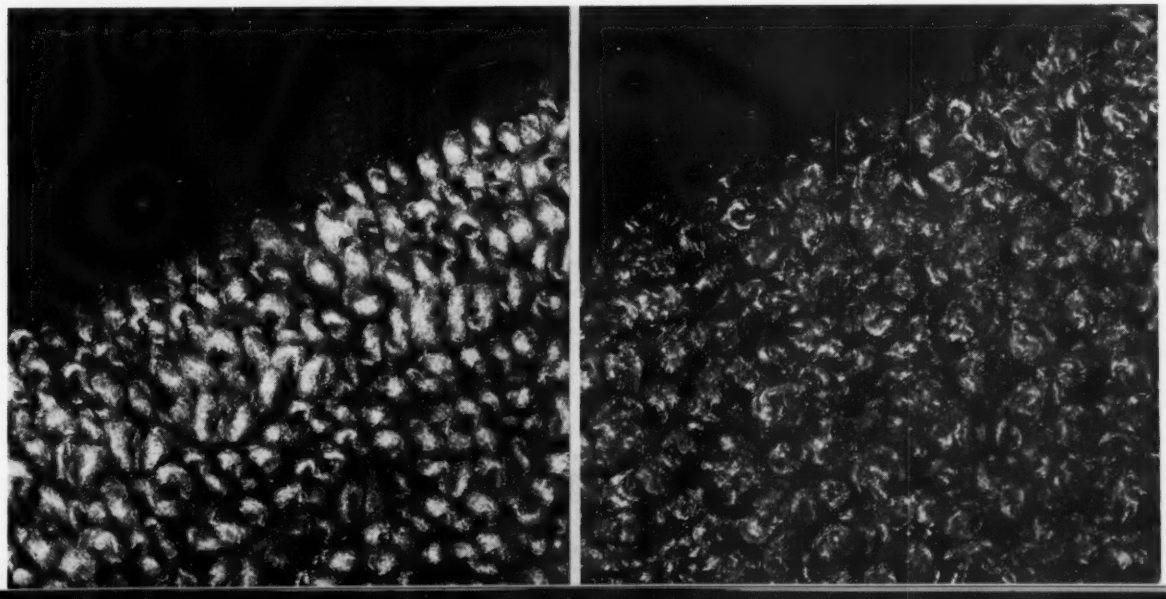
Reduced to its simplest terms, texturization may be described as the mechanical deformation of filament yarns to obtain a permanent voluminous effect. This is achieved in a number of ways:

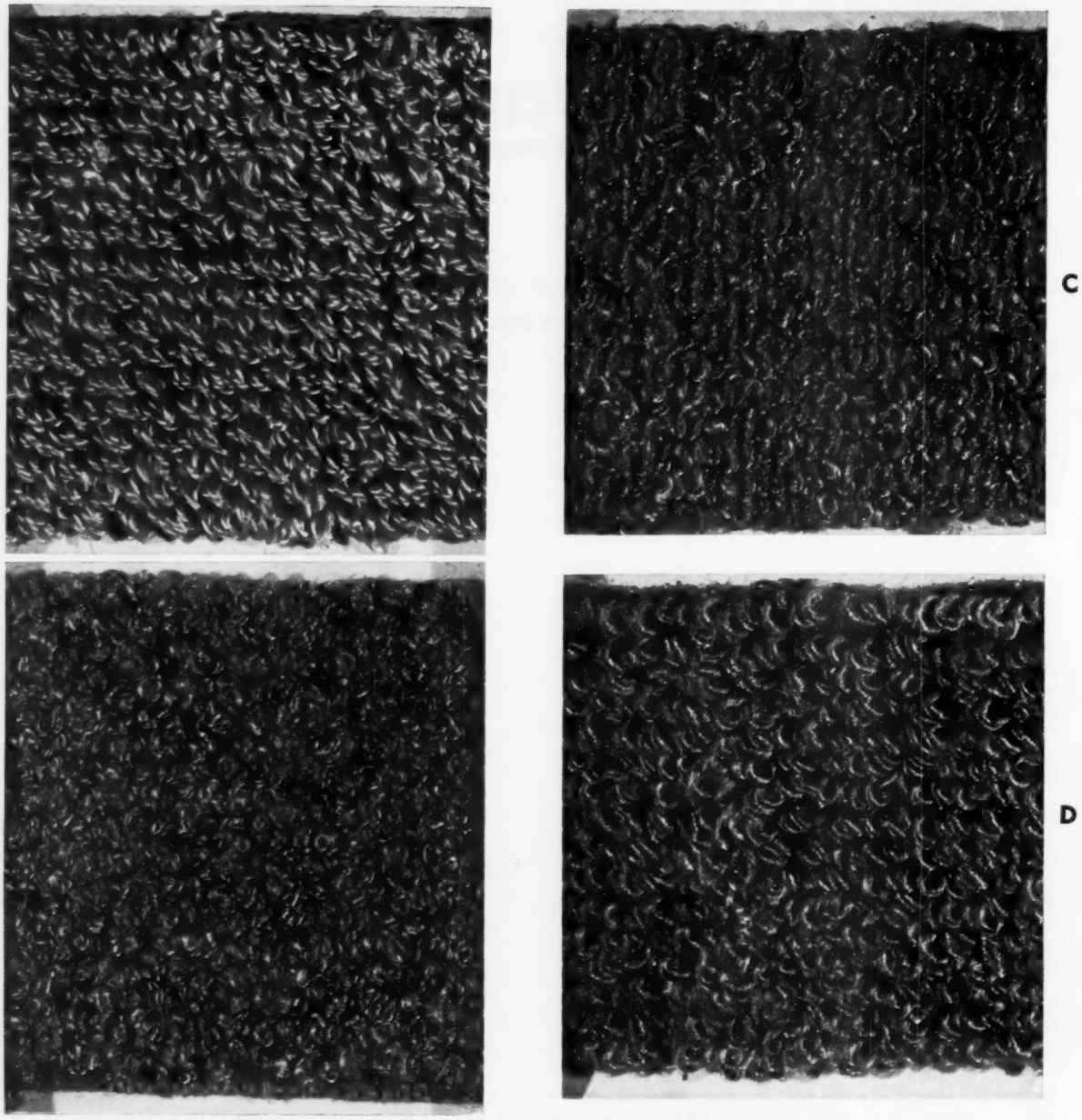
Coil—By this method yarns are given a high number of turns twist per inch, heat-set, and then the twist is backed out again. This converts the filament into a spring which will continue to exist and function as long as the heat-setting temperature is not exceeded. However, these temperatures are so high that they could not be attained in normal laundering or cleaning. A new method eliminates the stretch characteristic of coil yarns.

Crimp—By this technique, filament yarns are fed into a heated chamber, or stuffing box, faster than they can emerge. The completed yarn has a sawtooth appearance. This not only gives bulk to the yarn but also gives it a stretch characteristic resembling that of coil yarns, although somewhat more limited.

Another method of crimping involves passing the filament yarn over heated fluted rolls or gears. The appearance of the resultant yarn is that of a series

On the left is a sample of carpet made from conventional spun yarns showing bearding, fiber migration which causes shedding and pilling. On the right, is a sample of carpet woven from Allied Chemical's Caprolan filament yarn which has been texturized, showing freedom from bearding and greater blooming to provide extra cover. Proponents of texturized yarns say that they do not shed or pill because of their continuous nature.





These photographs show the different surface effects which can be obtained from one yarn construction through use of varying bulking processes.

A. Two-ply, 2100 denier Caprolan, which has not been texturized by any process, shown in a 3/8-inch loop pile, 10½ stitches per inch, made on 3/16-inch gauge machine. Yarn required—24.89 ounces per square yard.

B. Same yarn, crimped by Mylast process, in 3/8-inch loop pile, 8 stitches per inch on 3/16-inch gauge machine. Yarn required—21.89 ounces per square yard.

C. Same yarn, curled by Agilon process, in 3/8-inch loop pile, 8 stitches per inch, tufted on 3/16-inch gauge machine. Yarn required—21.17 ounces per square yard.

D. Same yarn, looped by Leon Ferenbach process in 3/8-inch loop pile, 8 stitches per inch, tufted on 3/16-inch gauge machine. Yarn required 22.89 ounces per square yard.

of endlessly reversant S's along the length of the yarn. This, too, not only imparts bulk to the yarn, but also gives it a stretching tendency.

Still another method of crimping yarn is the more complex one of knitting the filaments into a fabric, heat-setting the fabric, and then unraveling the knitted yarn onto a package. The resultant yarns are very similar to gear-crimped yarns.

Curling—This is a process by which filament yarns are passed over a heated element and then, in turn, over a knife edge. The result is very similar to what happens when one draws a paper gift-wrap tie over a knife blade. Having been distorted on one side the paper ribbon simply curls up. In effect, this is what happens to the filament yarn.

Looping—In this system of bulking, jets of compressed air are used to disarrange the individual filaments so that a series of random loops appear along their length. The yarn is then twisted and the loops locked into place. The effect of this yarn is to closely approximate conventional spun yarn in appearance.

Coil yarns, like Helanca, and crimp yarns, like

(Continued on Page 44)

President Frank H. Masland, Jr.
grandson of founder, C. H. Masland

The sons, grandsons and great grandsons of C. H. Masland have been making carpets for 90 years. Right now their firm is doing better than ever before.

The Hard-Working Maslands

By Jerome Campbell
EDITOR, MODERN TEXTILES MAGAZINE

ALL THOSE MASLANDS are in the carpet business for the long haul. Some 90 years after a young Civil War veteran named Charles H. Masland started making carpets in Philadelphia, there are six Maslands, grandsons and great grandsons of founder Charles all working their heads off to keep the family business forging ahead. And they are doing well, too. Last year and this year, according to President Frank E. Masland, Jr., Masland's sales and profits were better than ever before.

Disproving the old saying that successful American families go from shirtsleeves to shirtsleeves in three generations, the carpet-making Maslands, as far as their business goes, have never gotten out of their shirt sleeves. "There are no drones in the Masland hive," is the way Frank Masland puts it.

As the history of their company amply shows, hard work and unstinted devotion to the family business has been the Masland rule for nearly a century. Today, however, all who know the tribe of Maslands agree that the company they own and run has never been so charged with energy, new ideas and bustling determination to grow than it is today.

Success, of course, is a great inspirer of more success. And right now, the whole Masland organization is savoring the sweet taste of success in an operation whose correct fulfillment was utterly essential to the continued existence of their company. This crucial task was the creation of a fully staffed national sales organization, complete with warehouses and showrooms in New York, San Francisco and Chicago, in less than a year.

The need for a big carpet mill, more than 85 years old when it happened, to set up its own sales and distribution departments in a hurry came about this way: from their earliest days in the carpet business the Maslands had been satisfied *to make* good carpets, mostly in latter years, wilton and velvet weaves. It was settled company policy to avoid the complications

PRELUDE TO A BUSINESS CAREER—Charles H. Masland, founder of the company, fought in the Union Army during the Civil War. After the war was over, he put aside his uniform and saber and went into the carpet business.

THREE MEMBERS OF THE FOURTH GENERATION—In the top picture, Frank E. Masland III, vice president and general manager, addresses a meeting of Masland salesmen. In the middle picture is Charles H. Masland III, vice president for engineering. The bottom picture is Daniel L. Masland, director of the company's yarn spinning plant in Wakefield, R. I. All three are great grandsons of founder Charles H. Masland.

of maintaining a sales force by delegating the task of selling Masland carpets to an outside organization.

For many decades in the early days, Masland sold its carpet through W. & J. Sloane. In 1938, Alexander Smith Inc., a big mill and a big name known largely for the production of lower cost axminsters, took on the job of selling Masland's generally higher priced Wiltons and Velvets. Since Smith had a nationwide sales force and a complete distribution system with many warehouses, the arrangement worked out well for quite a long time.

But along about 1951, the senior members of the Masland family, President Frank, vice presidents R. Paul Masland, Charles H. Masland, II, and Maurice H. Masland, Jr. began to speculate about the advantages and disadvantages of being an important carpet manufacturer without a sales force. Looking into the future a bit they began to suspect that the disadvantages might greatly outweigh the advantages. For one thing, they were aware, as were so many others in the carpet industry, that Alexander Smith was in trouble, and was having difficulties which gave rise to the inevitable rumors of mergers, drastic relocations and curtailments.

If anything happened to Alexander Smith, the Maslands told themselves, they might find themselves in the painful, not to say disastrous, position of having no means to sell their products.

To help their thinking about this knotty problem, the Maslands in June, 1951, made a survey among a fairly large group of retailers who handled Masland carpets. To their sharp dismay, they found that about one-third of these seasoned carpet retailers thought that Masland was a division or subsidiary of Alexander Smith. As Frank Masland puts it, "We discovered that we had a low rating on corporate identity. We were a company without a face."

This sad anonymity was the result of having distributed their line first through Sloane and then through Smith. For the Maslands, justifiably proud of their family company and its history of growth and achievement, it was a painful shock to realize that they had been in business more than 80 years and that so few people knew it.

The Maslands Seek a "Face"

How the Maslands set out to remedy this condition and how in 11 months they succeeded in setting up a sales organization with 40 salesmen, branch offices and warehouses keyed for national distribution directly to retailers, has been told in detail elsewhere. (See the complete report in SALES MANAGEMENT, June, 1954, by A. R. Hahn). We need not repeat it here. One of the big, heartening facts about this amazing achievement was that during the travail and turmoil of the job, Masland's sales volume *went up* instead of down as the experts had predicted.

Under its new sales set-up, Masland is a mill that sells directly to retailers, and is thus only one step removed from direct relations with consumers. For this reason, the company, in the four years that have passed since its new sales organization made its first sale, has left no stone unturned in its efforts to acquire "a face" clearly recognizable by carpet retailers and by consumers, too. Masland has been telling its history through advertising, and through intelligent, energetic public relations efforts. And people have listened to the Masland story because it is interesting, inspiring and typically American in its emphasis on hard work, family cohesiveness, and devotion to sound American values.

Part 2 of an analytical report on this year's knitting arts exhibition by expert George Urlaub.

newest advances in knitting machinery

FABRIC AND BODY MACHINES (Cont.)

Circular Machines

As usual at a Knitting Arts Exhibition, SCOTT & WILLIAMS had in operation an extensive range of circular latch needle machines. This year there were 21 machines in all, some altogether new and incorporating recently developed attachments or improved mechanical features. These machines ranged from a 3-feed, 7″ toque machine to a 32-feed, 30″ interlock rib-cuff body machine, and included the Komets for half-hose and six 400-474 needles ladies hosiery machines.

No doubt, the outstanding body machine at the S & W booth was their new Brinton MFRC machine, which is the company's answer to demands for this type of machine. This is a new multi-feed rib-cuff interlock machine for making sweater bodies and sleeves. The machine knits 15 courses when running in the 1 x 1 cuff section, where the yarns are striped out of the long-needle sections and a second yarn is introduced to the short-needle feeds. At the end of the garment cycle a separating thread is striped in and the cuff set-up is welted. If needed to prevent slippery yarn run-backs, a mechanism permits making 5 consecutive welts. Full stitch control on all types of stitches, with each stitch adjustable, also allows yarn change for different counts of yarn for interlock. There is also one blank section for needle replacements.

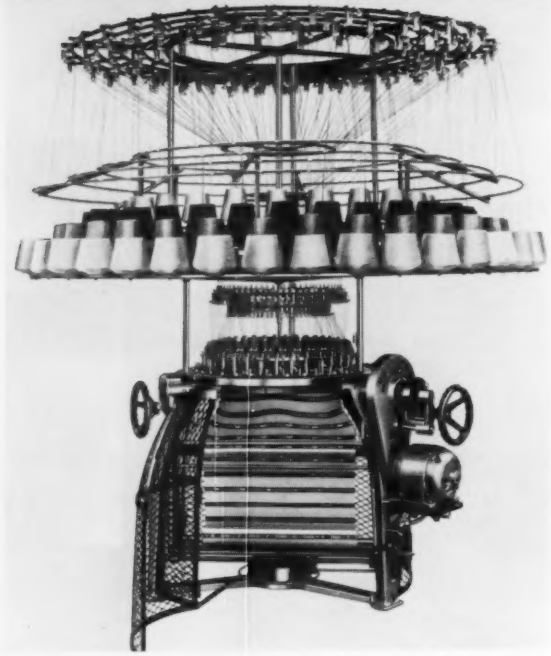
The toque machine shown was a 7″, 7 cut, 3-feed stationary cylinder machine, with pattern off 3 drums and a 31 step trick wheel. This machine now has a new 2-speed mechanical drive through pulleys, with settings slow for pattern and speed for plain knitting.

The Brinton "Mercedes" RMS is a revolving cylinder, 44-feed jersey machine with re-designed camming and a sinker head for making fine jersey fabrics. The Show machine was in 10 cut for sleeper fabrics but the machine is versatile to accommodate the same number of feeds with a change of cylinder to 22 cut for T-shirts. A new hand controller allows the operator to start the machine from practically any position.

The DRC universal rubber shaping revolving cylinder machine which has long been used for knitting girdles has now been remodeled for shaped elastic swim-suit fabrics and with patterns. Wrap-stripe-like patterns are effected by a reverse of the back yarn to the front, and plating and blocks are done with design wheels. Raw rubber yarns can be knit-in or laid-in through an improved rubber tension device, combining tension feed rolls and oil bath in one. Helanca yarn can also be knit-in with rubber.

The Brinton Jac-Loc PR19 has been modified with a stronger cross-bar and some S & W parts. A pancake motor has been added reducing the machine width, and a force-feed lubrication system oils the cylinder and dial needles, with an extra turning handle added to serve the remote side of this large machine. The Show machine was a 30″, 24-feed, 12 cut. This model can produce pattern rib; fancy ribs, blister stitch, interlock, welt stitch, and cable stitch. It is used principally for dress and sweater fabrics, and for swimsuits with or without rubber in-lay.

The Brinton RMRB model rib body machine for 1 x 1 and 2 x 2, with auto dial truck, was shown in a 19″, 14 cut, 18-feed, while S & W also had one machine, a late model rib "ILET" machine in 18″, 14 cut, and 12-feeds serving as a demonstration machine for "Wesco" stop motions in that company's booth, adjacent.



Supreme Model SAAF-C new latch-needle auto-striper was shown running novelty yarn.

SUPREME KNITTING MACHINE CO. exhibited three brand new models for the first time, in addition to late developments on their standard machine.

Model SAI-PP, a new combination rib-and-interlock machine was shown in 30", 12 cut, with 24 feeds and 60 ends—12 striping feeds, each with 4-color box, and 12 plain feeds—making automatically variable striped and rib fabrics. The dial is cammed for regular interlock and set out with long and short needles, while the cylinder has 3-position wheels in each section. Thus, the fabric can be all interlock, all rib, or half each, front and back. Auto-dial welting, and auto-pattern placing on cylinder feeds also permits going automatically from a running wheel to all-needles knitting, as for example, a pattern band followed by a solid or color band. Color and stitch-patterned fabrics, and auto-welted trims can be made as desired.

Another new machine shown by them was the ROF/T in 26", 18 cut, 36 feed, for producing patterned loop fabric as in sweat shirts, etc. It is claimed that this is the first latch-needle machine for making this basic type of spring-needle machine fabric. This model also converts readily to their ROF model for making plain all over 3-position pattern fabric.

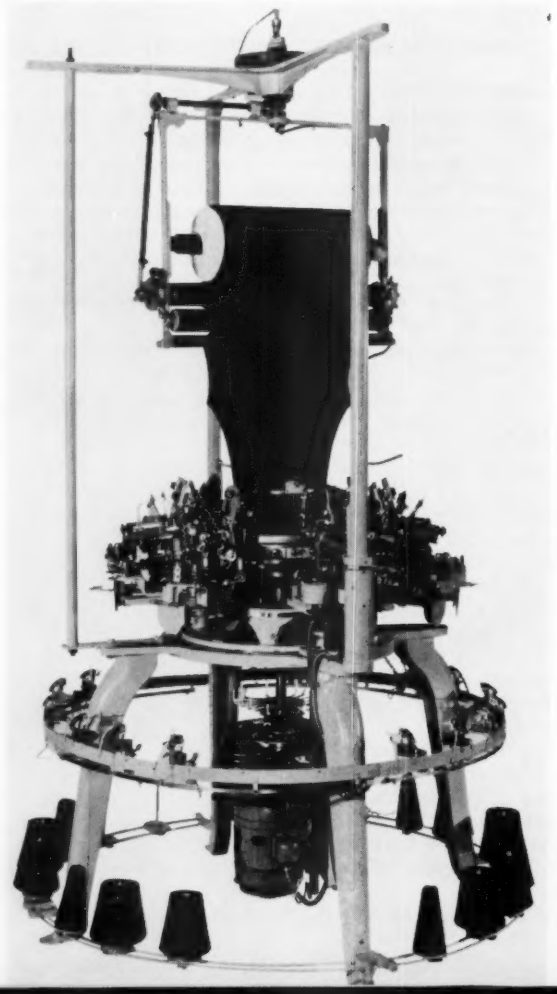
Another first showing was their new MLP-V machine, in 24", 18 cut, 32 feeds with a sinker-pattern-wheel on each feed. This machine produces knit-in high pile designs on a reverse plated jersey background, with special sinkers for uniform pile loops, as for sheared velveteen. Either plain or patterned pile fabrics can be made on this machine. The pile-loop yarn, when it is not making a pattern loop, is "buried" by plating in reverse or jersey side of the fabric. Thus, pile or sculptured patterns can be produced having a contrasting colored background between them.

Model SAAF/C is a versatile automatic striping machine for making striped, patterned or plain jersey fabrics. This new latch-needle auto-striper, in 26", 18 cut was also running novelty yarn, knitting it in versus laid-in.

Also shown was their standard jersey machine, Model MJ, in 15", 22 cut with 48 feeds. One machine developed during the past year was not exhibited because of its highly specialized uses. This is their Model HP, high-pile, 30", 24 feed machine in which a regular yarn is laid into the fabric, for any height pile, by means of a special device for making pile linings and fur-type fabrics.

TOMPKINS MACHINE CO. showed a new single-head spring needle machine, which is a change from the long familiar two-cylinder table of the Tompkins machine. This was their all new "S-1 Jr" gearless drive with brake on motor and on cylinder and with anti-back-lash on the take-up. A vertical shaft motor drives the machine through a double V-belt drive. The Show machine was a 21", cylinder, 20-gauge, running on soft-spun cotton fleece fabric—six full fleece feeds (double plush)—18 yarn ends through burr-type furnishing wheels and full stop motion. Automatic oiler and air blower-cleaner are also built into this new model. Absolute minimum of cloth imperfections and broken needles are claimed for this new machine.

An interesting new development in body machines was shown by ORDNANCE GAUGE CO. who just finished their new "OTSA" model in time for the Show. This new 32", 16½ cut machine has 32 feeds instead of the previous 12 for making fine jersey stitch bodies with 1 x 1 rib cuffs. This is the first true jersey machine built by them, their previous models being a combination jersey and interlock type. Their transfer needle differs from the spring-clip type in that it has a solid shank with a deflection bent so that the



Tompkins' new single-head spring needle machine "S-1 Jr."

dial needle runs into the bridge formed there in picking up its transferred stitch. The other machine shown was a 22″, 10 cut, 8 feed regular interlock and jersey type.

The long-awaited new Philip multi-feed interlock body machine (now being built by Supreme) was exhibited by the K. & J. Trading Corp. Two machines, both 14 cut, 30″ cylinder, with 30 knitting feeds were in operation on hi-bulk Orlon and on modified filament nylon (Ban-lon) yarns, making sweater components. Two additional machine sections are used, one for the nylon thread separating course, and one for the scissors.

This machine produces ribbed cuff sections on half the needles in the cylinder and dial, by feeding them two yarns on each alternate needle, instead of the one yarn knitted thereon when running interlock stitch. This extra yarn is carried over from the odd-numbered feeds by retractable carriers to the even-numbered feeds, which knit in the cuff. The yarn carriers for the out-of-action feeds are lifted out of needle contact at the idle needle banks.

Since no actual stitch transfer takes place, "transfer needles" are not necessary. When the machine changes to the body fabric, the alternate feed out-of-action interlock needles are advanced, pick up their loops from the returned yarn carriers and continue forming their needle wales in the fabric.

A heavy 3-legged frame allows simple machine balancing on installation, with a pancake type motor mounted in one of the legs. A blower operates off the pattern chain for needle cleaning at the end of each garment cycle. A nylon separating thread feed and special yarn-float set-up makes for yarn economy at the end of the set.

Two new Philip machines are also reported now building and should be ready within the next year. One is a 30″ machine which will permit striping and patterning from 240 yarn feeds by control of in-and out-of-action yarn carriers without striping boxes. The other is two-bar rib cuff auto transfer on a regular spring needle Cotton-type full-fashioned outerwear machine.

The Draper Corporation's Wildman-Jacquard machine exhibit included the following machines:

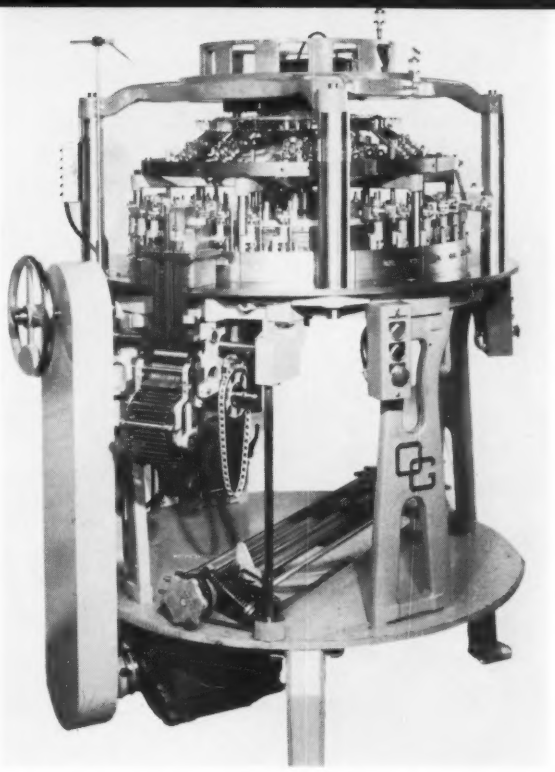
Model "AI" circular interlock machine for making 1 x 1 rib cuffs on interlock rib body sweater bodies, in 32″ cylinder with 32 feeds.

Model "TJI-12" circular transfer machine for making sweater bodies in jersey, rib, interlock, pique and unlimited Jacquard designs, with or without horizontal striping, and with 1 x 1, 2 x 1, or 2 x 2 cuffs. This machine, 30″ cylinder, 12 feeds with 12 four-color yarn changers, has an electric clutch, automatic oiling, new control switch panel and an improved short chain system.

Model "TAI-24", circular transfer and interlock machine in 32″ cylinder, 24 feeds including one four-color and 23 two-color yarn changers for making combination jersey and rib bodies, but with Jacquard patterning. This machine also has a new 2-speed vertical drive mounted on the outside of the beds.

Model "PB-2" revolving cylinder, stationary head, rib striper in 22″ cylinder with 10 feeds, for making trims, cuffs, with draw thread, in patterns, half cardigan, and round or tubular welt.

As before, the pile fabric machine, Model "FBW-6," created much interest with the fur-type fabrics so much in demand now. This 23″, 6 feed, 10 cut machine, has four miniature cards, mounted at the quarter points of the cylinder. The cards feed in sliver of



Ordnance Gauge Co.'s new OTSA Model 32-feed true automatic jersey machine.

synthetic fibers, directly into the needles in their raised position, from which they are knitted into the fabric, subsequently set firmly by shrinkage in processing, then sheared and dressed into a fine fur-like knitted fabric for women's coats and other uses.

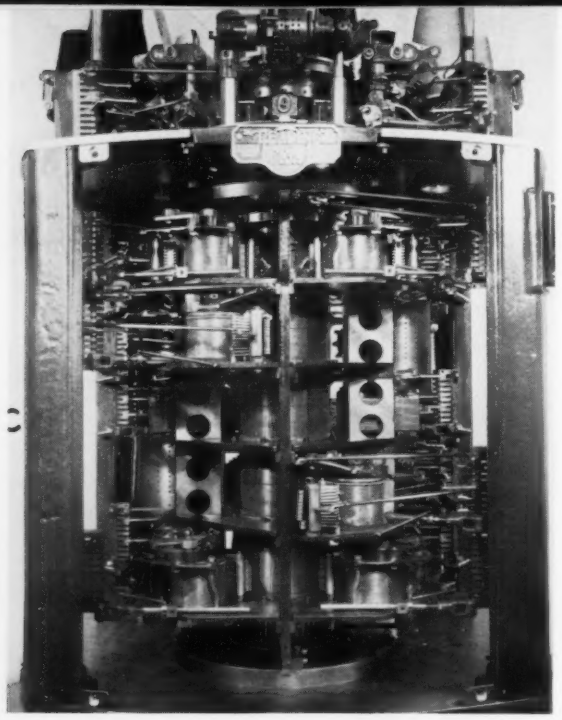
MEN'S AND CHILDREN'S HALF HOSE MACHINES

H. E. Crawford & Co. showed their latest attachment on their Model A A-3 "Mosaic" intarsia pattern machines for men's socks. Two machines, one an 84 needle and one a 108 needle, were run on rubber cuff styles, with 3-color pattern changes in side panel effects. One of the patterns, a 3-color cube design, demonstrated a new concept of intarsia work on these machines. This forms a gusset-like wedge in a technique borrowed from heel and toe suture knitting. This part of the pattern has the needle wales running obliquely to those of the rest of the pattern which produces a 3-dimensional effect. The 108 needle machine also put on a 3-color Mor-Pul cuff with a new striping attachment. Both machines use needles with single length butts, and no jacks, actuating the needles through the pickers and droppers and an auxiliary drum.

The Draper Corporation's "Hemphill" machines consisted of latest models of intarsia pattern machines:

The "VIP" (vari-inlaid-pattern) machine was shown with an extended patterning scope. Through the use of 20 step jacks and the jack-pattern control mechanism arranged in two banks but controlled from the same drum, the cylinder can be indexed 90 or 180°. These, and a 96-move control drum and automatic shogging permit up to 196 move patterns. Completed socks are dropped from the machine with all connecting threads severed.

The Model SCOP-KE automatic overplaid machine,



The "Reading CK-A", Textile Machine Work's newly designed coile argyle machine, which was shown for the first time.

produces keen-edged solid color argyle patterns in up to 50-step pattern designs.

Model SCOP-CC duplicates on an automatic circular machine the hand machine argyle patterns in crossed color overplaid designs and bisecting solid color patterns.

HEMPHILL'S ARA-F2 is a newly developed fine-gauge anklet machine and knits complete anklets with genuine rib tops automatically transferred to the boot, through the use of a single conventional cylinder and a dial which drops out of action after completing the cuff.

THE EDLEY MACHINE CO. exhibited for the first time the Mor-Pul machine which came into the market during the past year. This machine is particularly adapted for rubber top goods and bulky double and triple cuffs on bobby-socks. Shown were Model RSVP, making a variety of patterns in men's tennis socks, and boy's and misses' ribbed numbers. The conventional Mor-Pul machine, Model YMP for the regular (plain) Mor-Pul construction was also exhibited with an improved rigid frame in a 60N-5" cylinder (ski-sock) machine. The company also showed a cardboard inserting machine particularly designed for stretch sock packaging.

This Show also saw the first public showing of TEXTILE MACHINE WORKS' newly designed "Coile Argyle" machine they acquired some time ago. This is their "Reading CK-A" which represents several departures from the conventional form usually associated with that of a men's sock machine. This is an unusual type of self-contained and compact unit. It has all the drives, drums, controllers, and up to 8 pattern drums arranged vertically (somewhat like the Italian Moncenisio of the last Show) and at several separate levels. These are separate sub-assembly units, which can be serviced, removed and replaced independently of the rest of the mechanism. They also permit easy access in fixing and setting patterns.

Three 3-3/4" machines were running on elastic cuff socks at the Show: One 84-needle on an 8 diamond sock with rubber in-lay cuff; one 112-needle on a 3-feed float "rundown" pattern, without showing a break at the back; one 168-needle on a vari-colored "broken block" intarsia pattern, 8 ends, with a tuck-locked yarn end fastening at the bottom of each pattern. (The vertical suture at the sides of the patterns is similar to the 2-needle split of the Cotton-type machine.)

TRICOMA, INC. hose machines were the Italian-built Moncenisio Model "Tricolor," a double-cylinder, 3-feed Jacquard machine for men's and children's half hose with elastic 1 x 1 rib top, rib Jacquard pattern leg and instep, honey comb stitch sole, and solid color heel and toe. Two 4½" machines were run, one 156N and one 188N. Multi-step jacks in 3 drums with 1350 pins each permit patterning over 52 needles wide and 150 courses deep, or almost any conceivable pattern. Motions to actuate various mechanisms are transmitted through flexible wires in steel tubes, instead of lever actions. A "Poron" patented elastic yarn feed and built-in motor are also features of these machines.

In addition to the fabric machines and the 400-474 needle ladies hosiery machines, SCOTT AND WILLIAMS also showed their latest machines and attachments for men's and children's hose. These consisted of 4 Komets, 3 ETR's and one ES2.

Two Komets had on them their new "Most-in-One" double-float pattern attachment, making men's slack socks with rubber top. This new device produces rib and links patterns, Jacquards and 1 x 1 goods, all off a single drum, versus two drums, through 5 cams on the quality drum, with all patterning done on the bottom cylinder. Another Komet ran junior misses' knee highs in a rubber top with turn-down Jacquard cuff.

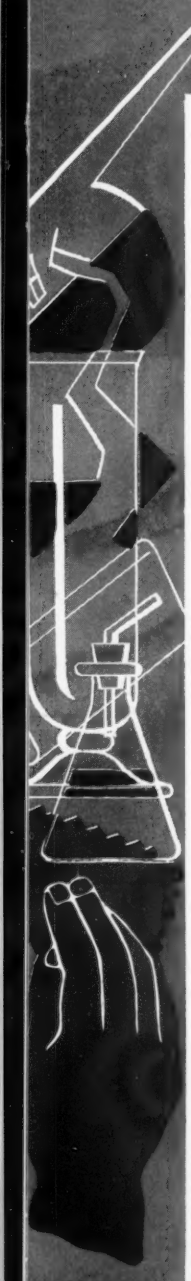
In children's goods a new reverse cuff, picot attachment for infant's Komet goods was recently announced, as were two new ETR automatic machines for making 1 x 1 and 2 x 2 plain and triple roll "interlace" rubber cuffs, and with cushion soles, for men's and children's ribs and anklets.

At the Show, one ETR made men's cushion sole socks with 2 x 2 top, another made 2 x 2 bobby socks with triple roll cuff, and the third machine made children's 54 gauge anklets.

Another men's machine, the ES2 ran 200-needle men's slack-hose in a combination, 24-end, wrap and float pattern.

FIDELITY MACHINE COMPANY'S completely new children's hose machine, which was introduced at the Show, created considerable interest in more ways than one. Perhaps outstanding was its single feed, controlled by a drum through a knot tyer for running up to 10 ends of yarn. This machine, their Model ATR, is an automatic true rib transfer machine which may be an original concept of automatic rib cuff knitting in that it has regular latch needles instead of the compound "cast-off" needles used heretofore in imitation rib cuff hosiery. A push button start and stop electronic actuated motor controls speeds from 7 to 200 RPM and the time cycle, with the control drum set out so the fixer knows exactly at what part of the stocking the machine is, when stopped for yarn break or otherwise. A guillotine intercoupled stop-motion prevents accidental start of machine after a controlled stoppage. A second motor

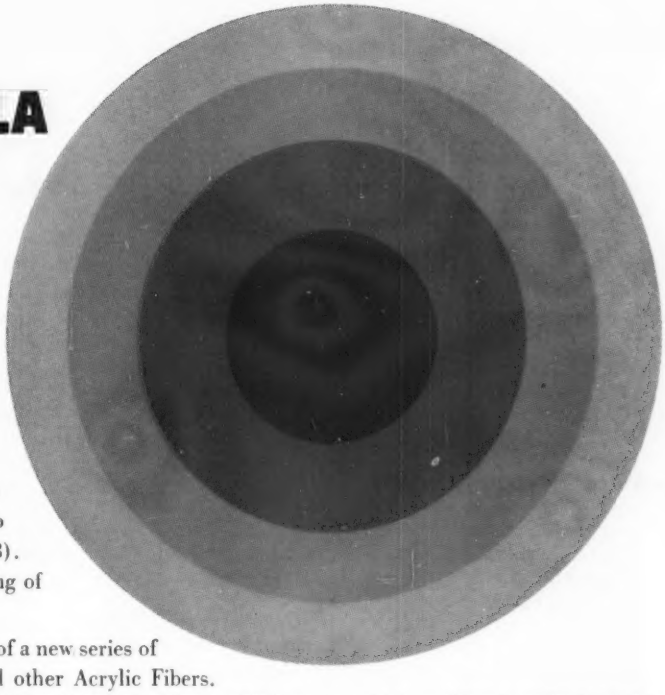
(Continued on Page 54)



NEW

MAXILON* BLUE GLA

FOR ACRYLICS BUILDS UP TO SCORE A BULLSEYE IN DEEP SHADES



Never before has it been possible to get as deep blues on Orlon** so outstandingly fast to light (7-8). Even in the lightest shades a rating of 7 is assured.

MAXILON BLUE GLA is the first of a new series of fast basic dyestuffs for Orlon and other Acrylic Fibers. It imparts a clear, bright shade of blue which is neither reddish nor greenish, making it well suited for general utility purposes.

When MAXILON BLUE GLA is applied according to Geigy's recommended method, more level dyeing and well-penetrated shades are produced. It is compatible with other basic dyestuffs of high fastness. Contact your Geigy representative or send for samples and Bulletin 88-G.

*Geigy Registered Trademark **Product of DuPont

GEIGY DYESTUFFS, Division of Geigy Chemical Corporation, Saw Mill River Road, Ardsley, New York. Branches in all textile-producing centers.

GEIGY

dyestuff makers since 1859

Dye Maker's

By the Editors

THE STAFF of Geigy Chemical Corp. is now comfortably settled in the company's modern group of administrative offices and laboratories located on a 40 acre tract in the green open country at Ardsley in Westchester County, about 20 miles north of New York City.

Geigy, a wholly owned affiliate of J. R. Geigy, S. A., Basle, Switzerland, was located for many years in lower Manhattan. Growth was rapid during the past three decades, and especially since 1945 when the company expanded from dyestuffs to agricultural chemicals and pharmaceuticals, and then into industrial chemicals. This steady forging ahead made problems of living room an almost perpetual worry for Geigy executives. Located originally on Barclay Street, the company took additional space on Greenwich Street. Later, Geigy found more room on Park Place and on Worth Street to house expanding laboratories and offices.

Finally in 1955, the company decided to place all its scattered offices and labs under one roof by constructing a plant out in the country away from the congestion of Manhattan. Built into a sloping hillside, the new establishment consists of two main buildings connected by a bridge, and providing 132,000 square feet of floor space. In these buildings are housed offices and laboratories for Geigy's four divisions: dyestuffs, pharmaceuticals, agricultural and industrial chemicals. There is also a well-equipped cafeteria.

The laboratories of the dyestuffs division are designed to help Geigy customers with their dyeing and finishing problems. As such the laboratories concentrate on applications research with special emphasis on working out low-cost ways to dye commercially the constant flow of new textile materials emerging from the mills. Like the buildings, the equipment in the laboratories is modern and diversified. Geigy dye technicians are able to do stock, yarn- and piece-dyeing in ways that reproduce, in scaled down size, actual commercial dyeing operations.

Ordinarily, the Geigy laboratory at Ardsley does its work in this way: a Geigy salesman or customer will send in samples, sometimes of a dyestuff or sometimes of a fabric dyed to a shade which must be duplicated. Geigy's laboratory staff gets to work and produces the dye necessary to give the customer what he wants. The company also has a large staff of technicians who are ready to go out and show the customer in his mill or dyehouse how to use Geigy dyes. In the course of a year, these men, fulfilling hundreds of assignments, log many thousands of miles of travel throughout the United States and Canada.

Exactly how Geigy traveling technicians help customers with their problems is illustrated in a typical case history of a Geigy service call. A mill which dyed cotton in skeins was anxious to employ an optical bleach to supplement its regular chlorine bleach applied in a semi-continuous operation. The mill found that the kier packing and linking of the cotton skeins was not conducive to even distribution of the optical bleach. It so happened, however, that the employment in the subsequent bleach bath of a chlorine-fast optical bleach such as Geigy's Tinopal RBNA would be too costly for this material.

The Geigy sales-service man decided that distribution of the Tinopal might be better accomplished by applying the optical bleach prior to kier boiling. He designed a saturator which added little to the mill's capital investment and virtually nothing to the processing costs. So successful has been this solution to the mill's problem that it has been in use for five years.

Along with its work helping individual customers solve their distinctive problems, Geigy's applications research laboratories devotes much effort to working out broad new methods and systems for applying dyestuffs. An example of this work was its development a few years ago of the chrome steam method for dyeing nylon which employed chrome colors and produced extremely fast dyeings on that fiber. This method was a forerunner of super-heat applications which are so widely used today on polyester fibers.

Geigy products have been sold in the United States since 1846. In that year the New York house of Fisher and Keller became agents for the anilines and extracts manufactured by the Swiss firm which itself was founded in 1758, 18 years before the signing of the Declaration of Independence. In 1892, the Keller

firm was absorbed by Geigy Aniline and Extract Co. J. R. Geigy, S. A. in Switzerland was among the first to produce profitably the synthetic dyestuffs developed in the last half of the 19th century. From output of Fuchsine and Mauveine, Geigy advanced to the rosaniline blues, methylene blues, the brilliant greens and the first acid dyes. Geigy scientists in 1883 introduced the first direct dyeing cotton colors, paced by their invention of sun yellow which was shortly augmented by a full range of shades.

Under the leadership of Dr. Traugott Sandmeyer, a scientist whose contributions to dyestuffs progress rank him with Sir William Perkin, Geigy brought out the brilliant basic yellow, Auramine, and developed the processes for the manufacture of synthetic indigo known as the "Sandmeyer reaction". Until his death in 1922, Dr. Sandmeyer worked diligently on the development of improved coal tar dyes. Out of his

New Lab

Geigy has built a superbly equipped center to help industry get improved dyeing results

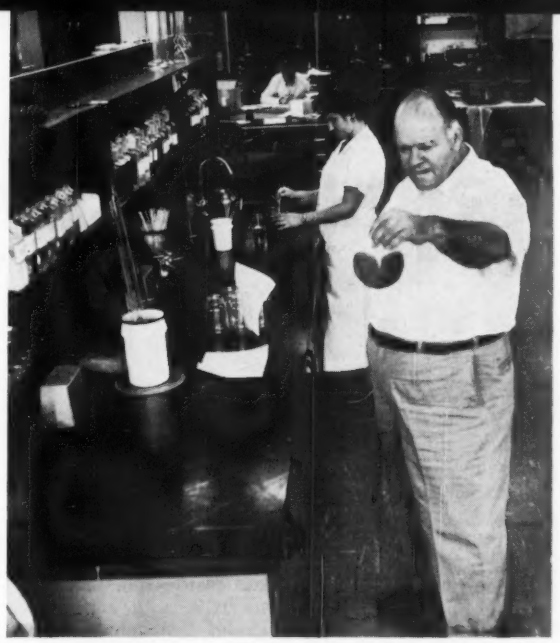
basic contributions, Geigy developed the famous Erio Chrome colors for fast wool dyeing. These dyes brought to menswear wool fabrics, hitherto largely confined to blues and blacks, all the colors of the spectrum. Today they are considered indispensable for woolens and worsteds. Later Geigy introduced the Polar Colors to supplement the Erio Chrome colors. These served not only to increase the brilliancy of the Erio Chromes, but also withstood the action of the chrome for taking the dyestuff on the fiber.

Keeping pace with the increasing importance of newer synthetic fibers, Geigy in 1951 brought out the pre-metalized Irgalan dyestuffs for nylon, wool and silk. Among the advantages of the Irgalans are outstanding processing and consumer use fastness, reduced dyeing time and excellent reproducibility of shade.

Other new products have been introduced by Geigy since the end of World War II. Among these have been the Tinopals, already mentioned, a series of optical bleaches which have permitted great progress in fabric bleaching. The development of these bleaches by Geigy has reached the point that no fiber in current use is without a Tinopal designed specifically for it.

Other important new Geigy products for the textile industry are fixative agents, chelating agents and Mitin, a durable mothproof finish for fabrics containing wool either in the 100% form or in blends.

(Continued on Page 45)



HELP FOR CUSTOMERS—A big staff of dye technicians works on customers' dyeing problems. In the top picture, August Raup, colorist, seeks the exact shade wanted by a customer. In the middle picture, Miss Dolly Babbino works on an analysis of the amount of Mitin, Geigy's mothproofing finish, deposited on a fabric sample. In the bottom photo, Roswell Ferris, chief colorist in the synthetic fiber department, takes a cloth sample out of a piece dyeing machine.

ARNEL TRICOT ANTISTAT

New finish said to cut static formation

A PERMANENT anti-static finish has been developed for Arnel triacetate fabrics by Celanese Corp. of America, the firm announced. More than 5 million yards of Arnel tricot, used largely in lingerie and women's outerwear, already have been treated commercially by the process which was developed in Celanese's laboratories at Charlotte, N. C.

The process, according to Dr. Reiner G. Stoll, lab director, creates a skin of cotton-like cellulose around each Arnel filament. This skin constitutes about 2% of the total fiber and forms an integral part of the fiber, not removed by washing or wearing.

Since the electrification of fibers is a surface effect, the hydrophilic (water absorptive) cellulose surface of Arnel treated by this process has anti-static properties similar to those of cotton.

The new process utilizes inexpensive chemicals and can easily be carried out with conventional dyeing and finishing equipment. It is applicable only to Arnel, Dr. Stoll said, and will not work on other hydrophobic synthetics such as polyesters, acrylics and nylon. Total fabric static is reduced, however, when treated Arnel is blended with these fibers.

While commercial application of the anti-static process so far has been limited to tricot work is now under way to apply it to woven Arnel fabrics. Dr. Stoll emphasized that the process, although applied during finishing operations, is not merely a finish, but actually induces a chemical change in the surface of the fibers. The knowledge required to apply the process is being made available to reputable textile finishing firms. Virtually all Arnel tricot reaching the market is now subjected to this treatment.

How Process is Applied

The alkaline treatment consist of subjecting the tricot to a concentration of a .3 to .7% sodium hydroxide. Typical operating conditions for Arnel tricot using the Burlington pressure beam dyer are:

Fill Burlington Unit with warm (100-120F.) water and run until there is a 2-3 lb. pressure drop across the beam.
Add 6 lbs. Triton X-100 and 6 lbs. Igepon T Gel.
Circulate 5 minutes (Inside-out flow)
Add 35 lbs. caustic soda flake dissolved in water.
Continue circulation.
Raise temperature to 205°F. as fast as possible (prob. 20-30 min. required).
Run at 205°F. for 30 minutes.
Drop bath
Give a hot rinse (150-160°F.) for 5-10 min.
Drop bath
Give an overflow hot rinse for 5-10 minutes
Drop bath
Fill with cold water
Add 2 liters 56% acetic acid
Run 5-10 minutes cold
Drop bath
Start regular dyeing procedure.

Where the Arnel tricot fabric is to be finished a bleached white, the alkaline treatment is carried out after bleaching to assist in the removal of residual peracetic acid. If the fabric is to be pressure dyed a light shade or given an optical bleach, the alkaline treatment is combined with the pre-scour. A typical formulation for carrying out the process in the winch is:

3.5 g/l caustic soda flakes
1.0 g/l Igepon T Gel
1.0 g/l Triton X-100
Run 1 hr at 90°C. (194°F.)

Acetic acid or sodium bicarbonate should be used to neutralize the residual alkali.

For developed navies and blacks which are preferably dyed in the winch an alkaline after-scour is recommended rather than a pre-scour. The formulation is the same as above except that 2.5 g/l caustic soda are used with a 30 min. instead of a one-hour scour.

Cost

Depending on batch size, fabric type and color, the process will cost from 2 to 4¢-lb. for tricot fabrics when the process is carried out on the Burlington pressure beam dyer, and about 4¢-lb in the winch.

Features of the Treated Fabrics

Antistatic Properties. This process results in fabrics with anti-static properties due to lower electrical resistivity and lower accumulation of electrostatic charges. While repeated laundering may increase the electrical resistivity slightly, no evidence of cellulose skin removal has been found, and the electrostatic charges bleed off very rapidly, even after repeated washings.

Increased Resistance to Atmospheric Fading. The degree of improvement to "O" and gas fading resistance varies with the depth of shade, but considerable protection is achieved on grays, tans and light blues.

Increased Resistance to Wet and Dry Crocking. The cellulosic skin helps prevent color rub-off. The general washfastness is unaffected.

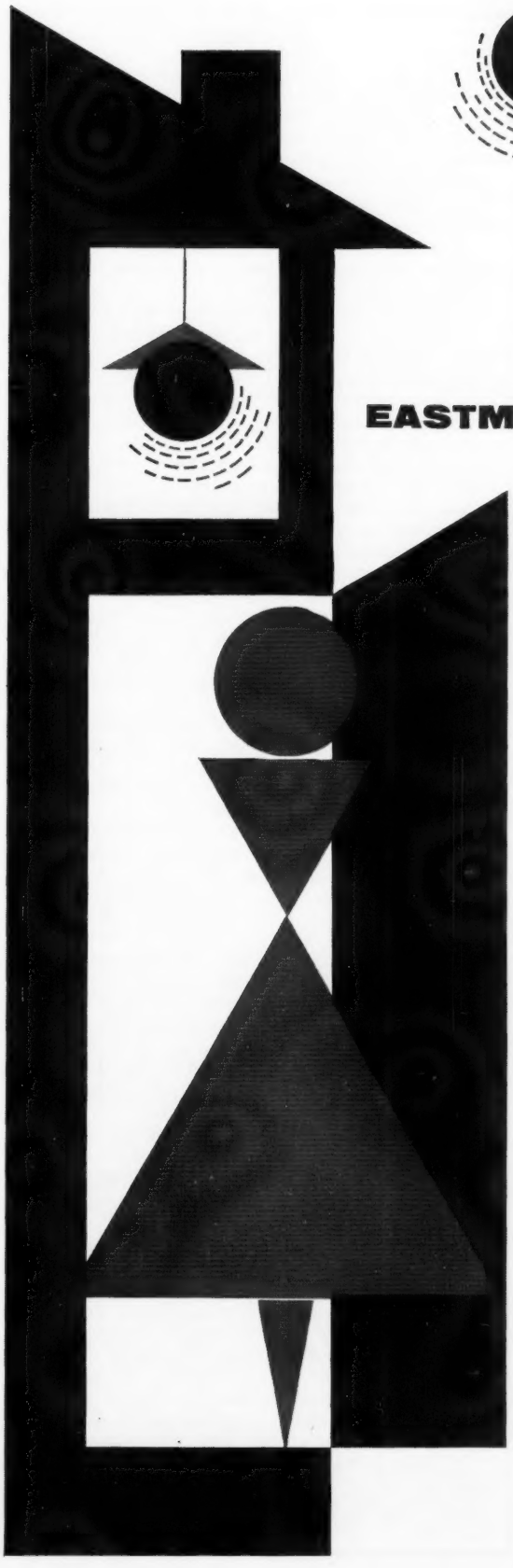
Soilage. Laboratory tests indicate that the treated fabrics are more resistant to soilage, particularly from lint and other soil that is attracted by electrostatic charges.

Whiteness Retention. Results after 50 launderings indicate that the treated and regular Arnel retain whiteness to the same degree. In general this whiteness retention is higher than for acetate and nylon.

Crease Resistance and Mussing. Tests to date indicate no significant difference between the treated Arnel and regular Arnel tricot fabrics.

Easy-to-iron. Permits easier movement of iron across fabrics at higher temperatures.

Hand. Gives softer hand and improves effectiveness of cationic softeners. Also increases resistance to stiffening on heat treatment. ■



true-blue

indoors and out

EASTMAN POLYESTER BLUE 3RL

New Eastman Dye Does Not Flare Red Under Artificial Light

Seldom has a new dye had such rapid trade acceptance as Eastman's Polyester Blue 3RL. And with good reason. Polyester fabrics and their blends dyed with this truly outstanding blue dye *do not flare red under artificial light.*

Moreover, this Eastman polyester dye has better resistance to sublimation than ordinary polyester dyes offer—an important advantage in suitings. Eastman Polyester Blue 3RL has excellent processing characteristics... good build-up, good exhaustion and outstanding leveling properties.

Eastman Polyester Blue 3RL is a bright shade of reddish blue. Dyers looking for economy plus performance find Eastman Polyester Blue 3RL an excellent blue component for navies, dark browns, tans and blacks.

Polyester Blue 3RL is only one of eleven primary and shading colors comprising Eastman's new series of dyes developed specifically for use with polyester fibers.

Eastman polyester dyes exhibit excellent fastness to washing, light, dry cleaning and wet pressing. In fact, this new series of polyester dyes, evaluated in laboratory and commercial tests, provides the best over-all fastness properties of any group of polyester dyes currently available.

Dyeing of polyester fabrics is easily accomplished with carriers or dyeing assistants, although these are not required if the dyeing procedure is carried out at high temperature (250°F). Fibers can be readily dyed in tow, tops, stock, or fabric forms. Fabrics of polyester filament can be conveniently dyed in jigs. Fabrics woven of spun polyester yarns alone or blended with cotton, viscose, or wool can be easily dyed in dye-becks.

Tests show Eastman polyester dyes work well in combination with premetalized wool dyes in dyeing polyester fiber-wool blends, and with virtually all types of viscose dyes in dyeing blends containing viscose or cotton.

Ask your Eastman representative to show you color samples of these new, superior polyester dyes:

Eastman Polyester Yellow RL
Eastman Polyester Yellow W
Eastman Polyester Yellow 5R
Eastman Polyester Red B
Eastman Polyester Red 2G
Eastman Polyester Dark Red FL
Eastman Polyester Blue GR
Eastman Polyester Blue GLF
Eastman Polyester Blue 3RL
Eastman Polyester Navy G
Eastman Polyester Black RB

Eastman Polyester Dyes

Eastman Polyester Dyes are sold in the United States by EASTMAN CHEMICAL PRODUCTS, INC., a subsidiary of EASTMAN KODAK COMPANY, in Kingsport, Tennessee; Lodi, New Jersey; and Greensboro, North Carolina. On the West Coast through Wilson Meyer Co., San Francisco, Los Angeles, Portland, Seattle, Salt Lake City. In Canada through Clough Dyestuff Co., Ltd., St. Laurent, P.Q.

Texturized Yarns

(Continued from page 32)

Ban-Lon, have been very successful in the finer deniers for hosiery, sweaters and other apparel applications. However, since we are concerned here with the coming technology in carpet manufacture, we shall limit this discussion to those processes which appear to be proving most adaptable to this end-use application. Up to the present time three types of these yarns have attracted the most interest among carpet manufacturers. These are the curled yarns, knit-crimped yarns and stuffing-box crimped yarns. Late last year, Callaway Mills introduced area rugs made from lofted Chromspun. These filament acetate carpets have had an excellent reception according to Callaway. On the other hand, Frank E. Masland & Sons introduced a wavy-wire broadloom construction of Tycora nylon filament yarn which brought only a modest response from the trade.

However, the abiding interest of virtually every major carpet manufacturer lies in producing a 100% nylon face carpet for the volume market. This covers the price range from $8.95 to $11.95. Now, not only do the carpet men have a whole series of texturized nylon filament yarns to work with, but also two distinctly different types of polyamide fibers, as well. Up to the present time probably the greatest amount of investigation by carpet manufacturers has been in curled yarns. Specifically, this is nylon filament yarn elasticized by Deering Milliken Research Corp.'s "Agilon" process. These yarns may be woven or tufted and do not attain their final character until after wet-processing.

Next in interest come the Mylast yarns of Clarence L. Meyers Co. of Philadelphia. While Meyers is uncommunicative as to the nature of its particular process, textile technologists are in general agreement that these nylon filament yarns are of the knit-crimp type. These yarns also achieve their final character after exposure to moisture. Similar yarns being evaluated by carpet men are produced also by Ames Textile Co.

Tycora nylon filament yarns of the stuff-crimp type also are being evaluated by carpet men and, as mentioned above, have already been introduced in a broadloom carpet by Masland. Tycora yarns are made by Textured Yarn Co., Inc., an affiliate of Nathan Schwartz Co. in Philadelphia.

The polyamide fibers which seem to lend themselves most suitably to the various texturizing processes are these: Allied Chemical's Caprolan in 560 and 2100 denier; Chemstrand nylon in 1040 denier; Du Pont nylon in 780 denier; and Industrial Rayon's 840 denier.

Already carpet men are learning some interesting things about texturized filament nylon. To begin with, traditional methods of weaving and tufting with spun yarns do not apply to filament. Running the new yarns is a more precise operation, disc tensions must be used and equipment and accessories must be in first class condition. But, all of this has its compensations.

Early experience indicates that there will be fewer breaks with filament nylon yarns than is the case with spun yarns. Already, some millmen have reported experiences where they have been able to run out an entire creel without a single break!

It is evident, too, that new standards of consumer acceptance in carpets will have to be established.

QUIZ

Q. *What is texturized filament nylon?*

A. These are filament nylon yarns which have been mechanicaly distorted by one of several different processes in order to substantially increase the covering power of the yarn.

Q. *What is the difference between filament yarn and spun yarn?*

A. Filament yarns contain a predetermined number of filaments, each of infinite length; spun yarns are comprised of many short lengths of fiber, each only a few inches long, which are held together through spinning and twisting.

Q. *Are all texturized yarns alike.*

A. No. There are at least four major types of texturized yarns available for use in the carpet industry.

Q. *What are they?*

A. Curled, looped, crimped and coiled yarns.

Q. *Are these yarns commercially available?*

A. Yes. Some sources are mentioned in the accompanying article *and a complete list may be obtained by writing to the editors.*

Q. *Is it possible to combine one or more types of texturized yarns into a single carpet yarn?*

A. Yes. Also, texturized and untexturized yarns have been successfully combined.

Q. *What special advantages do texturized yarns offer to millmen?*

A. Higher productivity, greater yield, fewer seconds, new surface effects, and new styling opportunities.

Q. *Do carpets of texturized yarns have any special benefits for the consumer?*

A. Yes. Carpets of texturized yarns offer maximum luxury for a minimum amount of yarn. Because there are no short ends to break out of loops filament yarn carpets are easier to clean, do not shed, pill or become unsightly due to fiber migration.

Q. *Ready to use, are texturized nylon yarns more costly than spun nylon yarns?*

A. At the present time they appear to be slightly higher. However, experts say that once looms or tufting machines are set up to handle filament yarns the ultimate cost to the mill will be lower because of increased efficiencies and fewer seconds.

Q. *Are there any restrictions in the dyeing of filament nylon yarns?*

A. Conventional methods are used, although formulations and cycling may vary according to the type of polyamide fiber being used.

Q. *Will it be necessary for a carpet manufacturer to purchase new machinery to process texturized nylon yarns?*

A. No. However, filament yarns are not spun yarns and require more precision in processing. Good equipment and proper tensioning devices will be important keys to quality production.

Q. *Is it necessary to obtain a license or pay royalties in connection with texturized filament yarns?*

A. No, not unless you wish to process your own yarn; in which case some arrangement would have to be made with the owner of the process.

While luxuriant dense pile carpets in both loop and cut pile constructions already have been produced which probably never will wear out, this is a development which hardly can be expected to overly excite the carpet makers. However, because texturized nylon filament yarns, by some processes, bloom out many times the original size of the filament yarn they give a degree of coverage pound for pound, square yard for square yard never before enjoyed by carpet manufacturers. In some tufting trials 100% coverage has been obtained in ¼-inch gauge! Some texturizers estimate that a saving of 12½% per square yard volume can be achieved through the use of texturized yarns. This, of course, will vary according to pile height and stitches per inch.

Coupled with this reduced yarn requirement is the extra resiliency which is obtained when the filament nylon is distorted by texturization. The crimps and curls in the yarns impart to the carpet a degree of bounce which consumers have come to expect of carpets of significantly greater pile height. In one recent trial where carpets of half-inch pile were laid down over foam underlayment the assembly had so much spring to it that women wearing high-heeled shoes could not comfortably walk on it. The foam was replaced with a hair underlayment and the reaction was one of excellent comfort and luxury.

Thus, it is apparent that carpets of 100% nylon surface will soon be available for the volume market. However, carpet retailers who instinctively look for a "beefy" piece of carpet will have to reckon with the real performance values that the new materials have. In turn, the retailer will have to overcome the same prejudices at the consumer level.

Because the use of texturized yarns in the carpet industry is a very new idea, a great deal of the effort has been confined to the use of a single type of texturized yarn in carpet. That is, a carpet manufacturer has been inclined to use all curled yarns in a carpet, or all crimped yarns from a single process. Textile ingenuity has a way of coming to the fore, however, and by combining two types of polyamide fiber, texturized by a single process, excellent moresque, heather and tweed effects have been achieved in carpets with exciting new surface effects. In some cases this has been done by skein dyeing, and in other cases the different dye indexes of the two polyamide fibers have been put to work and moresque effects achieved through piece dyeing.

Recently, one experimenter has taken another forward step by combining an end of texturized yarn with an end of untexturized yarn, ending up with an effect which appears to be looped and cut pile. Piece-dyed, an excellent two-tone result was obtained.

It is at this point that the carpet developers are getting down to practical cases. With crimped, coil, loop and curled yarns available in a variety of deniers and available in two distinctly different types of nylon, the carpet makers are on their way toward the development of surface effects never before possible in floor covering, and in a range of colors of striking depth and brilliance never before available to carpet stylists.

Carpets of filament nylon should set new standards of cleanability because tests show that filament nylon carpets may be cleaned far more readily than conventional spun yarn carpets. In addition, because there are no short ends to pull out of the loop, the new carpets will not shed, pill or become unsightly because of fiber migration.

And all this at a price the average consumer can afford to pay!

Dye Maker's (Continued from Page 41)

Among the most recent Geigy innovations are the Maxilon colors which bring a high degree of light and wash fastness to acrylic fabrics.

To manufacture these new products in volume, Geigy has steadily expanded its production facilities in the United States. In recent years new manufacturing plants have been built at Cranston, Rhode Island for the manufacture of auxiliaries and fine industrial chemicals, and at McIntosh, Ala., for the production of insecticidal agents and industrial chemicals. Geigy also acquired an interest in the Toms River Cincinnati Chemical Corp. which operates the big new vat dye plant built a few years ago at Toms River, N. J. And only a few months ago, Geigy moved into the field of pigments for pad dyeing of textiles by purchasing Aula Chemical Co., in Elizabeth, N. J.

Along with its manufacturing plants, Geigy has sales offices and customer service laboratories in Newton Upper Falls, Mass.; Philadelphia, Pa.; Charlotte, N. C.; Chattanooga, Tenn.; Chicago, Ill.; Los Angeles, Calif.; Portland, Ore.; and Toronto, Canada.

Acrylic Fiber Rug

The bedspread and bath rug division of Cabin Crafts, has introduced a bath and boudoir rug, "Caresse," a totally new construction knitted of 100% acrylic fibers with Acrilan. The rugs retail at $5.95 for the 18 by 30-inch size with larger sizes ranging up to $39.95.

Cabin Crafts "Caresse"

REPORT FROM EUROPE

BY SPECIAL CORRESPONDENT

ICI to build big fiber plant with eye on export trade; UK rayon weavers fear Japanese goods in "common market"

LONDON—Imperial Chemical Industries, Ltd., will spend some 100 million pounds to build a giant new plant on the Severn River, near Avonmouth, in Gloucestershire. ICI directors stated that the new plant, to be completed in the mid-1970s' would be similar to the company's Wilton works in North Yorkshire.

Exports Will Be Important—This will mean that Britain will have a new, ultra-modern plant making not only a wide range of chemicals but also such man-made fibers as Terylene and polyethylene. Products will be mainly petrochemicals. The riverside site will allow barges to bring in raw materials and will be important in permitting the new plant to export by direct water shipment the large percentage of its production that is being planned for overseas sale.

Fear Japanese Competition—British rayon weavers see new source of Japanese competition in proposed European Common Market. And they have been urging Australia to reconsider its trade treaty with Japan. Under the 1957 Australian renewal conditions, Japan would secure most-favored nation rights which, British Rayon Weaving Association says, would constitute a blow to entire British textile industry. Japan is countering that if she does not boost her exports to Australia, she will have to cut down on wool imports.

"Common Market" Opposed—The British rayon group, which represents 300 manufacturers, is also battling to keep United Kingdom out of Common Market. R. W. Pennington, chairman of Rayon Weavers Association, said "Euromarket" treaty contains a provision under which a certain percentage of man-made fibers could be imported into the member countries. As far as Japan is concerned, he added, "Because of low Japanese labor costs, gray cloth could be imported, given an expensive finish and still have a considerable price advantage over fabrics manufactured wholly in the free trade area" (Britain, France, Germany, Italy and three Benelux nations).

Sharper Definitions Asked—Pennington also asked for more precise language in the Euromarket treaty with regard to privileges of member nations to shift from one category of textile imports to another within given quotas—so-called "in-quota" shifts. Apparently, his group is afraid that vagueness in these provisions may give some member nations unfair advantages with regard to imports from Japan. His emphasis on definition in the field of imports was matched at the recent Brussels committee meeting of the International Federation of Cotton and Allied Textile Industries.

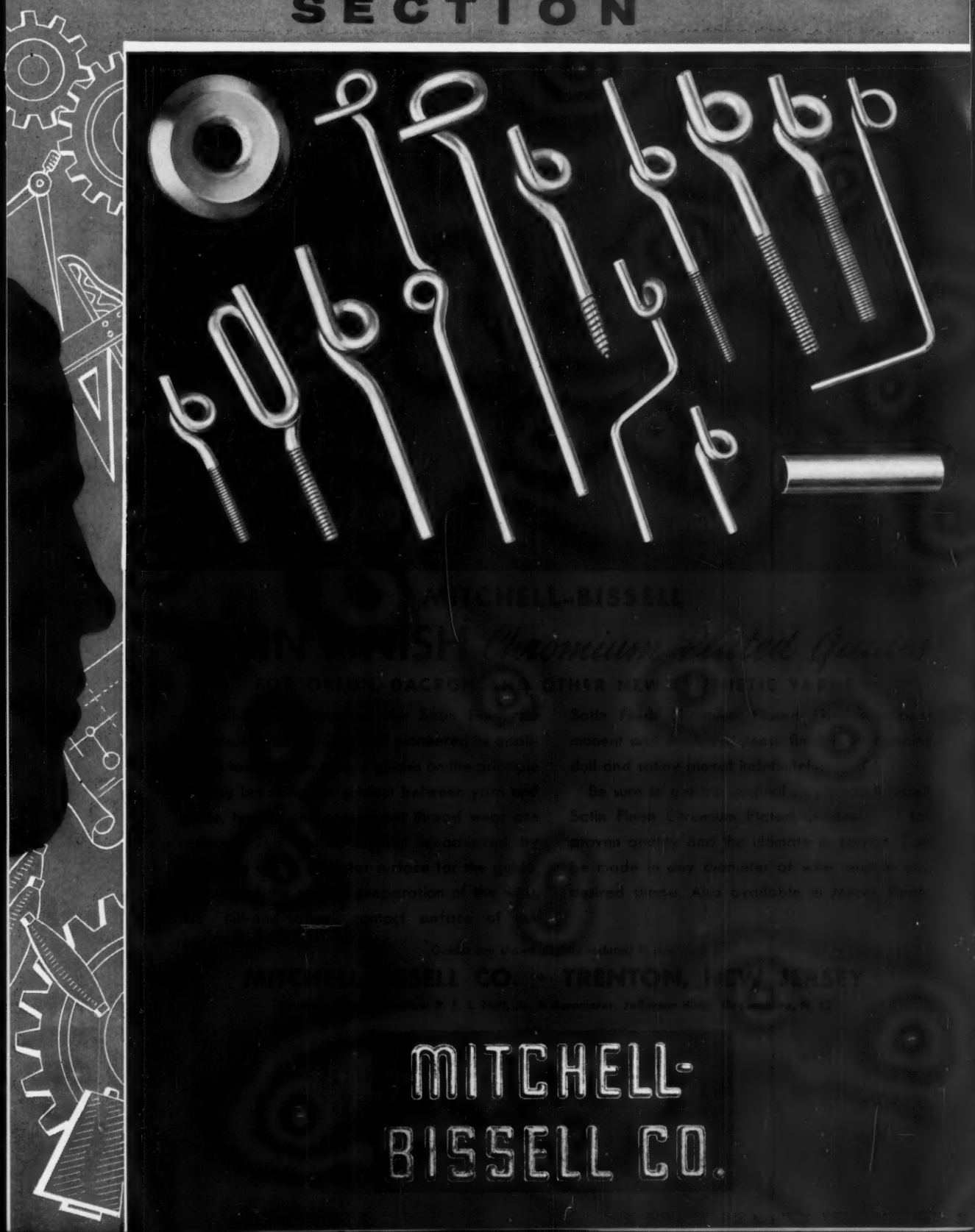
Prof. L. H. Dupriez, president of Belgian Cotton Spinners Association, who chairmanned the meeting, insisted that, if "Euromarket" is to be a fact, sharp definition of products will be necessary to "safeguard interests of textile manufacturers in the area itself and which will be comparatively simple and effective to operate." He said that question of cloth nationality acquired by processing will have to be closely studied—especially for gray cloths. Japanese cloth was not mentioned in the official report of meeting.

U. S.-Italian Trade Linkages—American and Italian firms are teaming up increasingly in the field of man-made fibers. Snia Viscosa, of Milan, recently formed a wholly owned U. S. subsidiary, called Resinova, which will manufacture Papertex, a light coated Nylon fabric. It has been used in Europe for documents, maps, photographic paper and safety paper. It may be used in the future for rainwear, sportswear and upholstery. General Aniline & Film Corp. and Schwarzenbach Huber Co. are the U. S. companies concerned and may later get part of the Resinova interests.

Union Carbide Corp. and Societa Edison, of Milan, have decided to start new firm in Italy to be called Celene, SPA, which will manufacture high-tension polyethylene. Initial plans call for an annual output of 24 million pounds . . . Italy has just closed its first International Clothing Materials Mart, held in Milan. The show, which featured novelty cloths of all kinds, was termed highly successful and may be repeated.

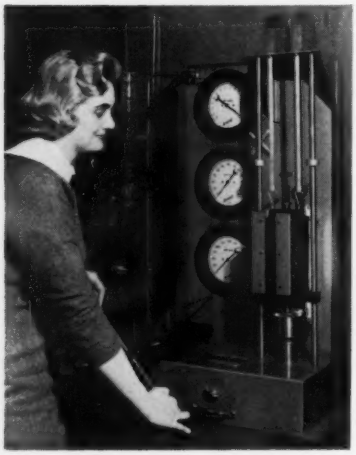
(Continued on Page 51)

MACHINERY and EQUIPMENT
SECTION



New MACHINERY

New EQUIPMENT



Pore-Measuring Machine

American Instrument Co., Inc., offers a new portable instrument, the Porosimeter, for measuring the sizes of pores in any material. The company reports that the quality and performance of any material with pores, including textiles, metals, plastics, chemicals, leather, etc., can be determined through a pore-structure analysis. It is said the coolness of a lady's blouse, the toughness of a man's shoe, or the paint job on an automobile can now be tested by the new instrument. *For further information write the editors.*

Unifil Loom Winders

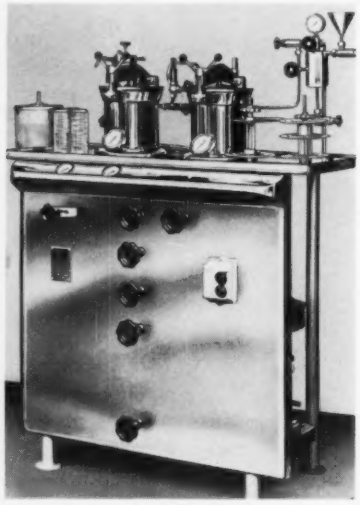
Universal Winding Co. vice president Robert S. Pennock reports receipt by his firm of two more orders for Unifil loom winders, bringing to over 3,000 the total number ordered to date. Woodside Mills, Greenville, S. C., recently placed an order, as did Riegel Textile Corp., Trion, Ga.

New Whitin Comber

Whitin Machine Works has announced a new model comber, the Super J, said to have higher maximum production rates of up to 50 pounds per hour with greater nep removal. Increased performance and production are said to be secured by the addition of a special spring cushion plate, redesigning of the cushion plate, feed roll plate, and nipper knife, plus increasing the diameter of the detaching rolls. An eight-head single sided machine, the comber operates at 150 nips per minute under all conditions, and has 50% fewer parts than other combers. *For further information write the editors.*

Lab Dyeing Machines

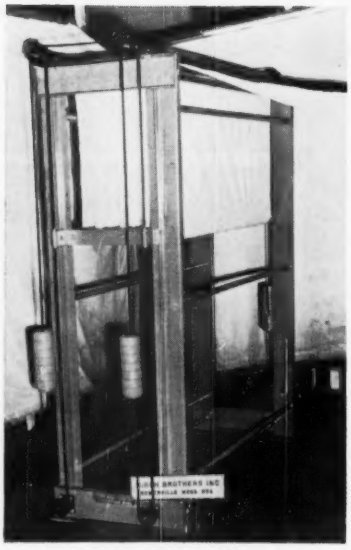
A line of high-temperature laboratory dyeing machines manufactured by Scholl Ltd., are being introduced in the United States by Cosa Corp. The machines, specifically designed for dye research, are said to provide a dependable means of pre-testing dye formulas and techniques on any textile. The manufacturer reports that by pre-testing with these machines dyers can carry out subsequent full-scale dyeing without stopping for changes or corrections. *For further information write the editors.*



Scholl Lab Dyeing Machine

Pneumatic Specialties

The Industrial Division of Watts Regulator Co. has available literature describing its pneumatic specialties, including filters, regulators, lubricators, various combination units of these three items, pressure regulators, air relief valves and strainers, and a complete line of accessories.



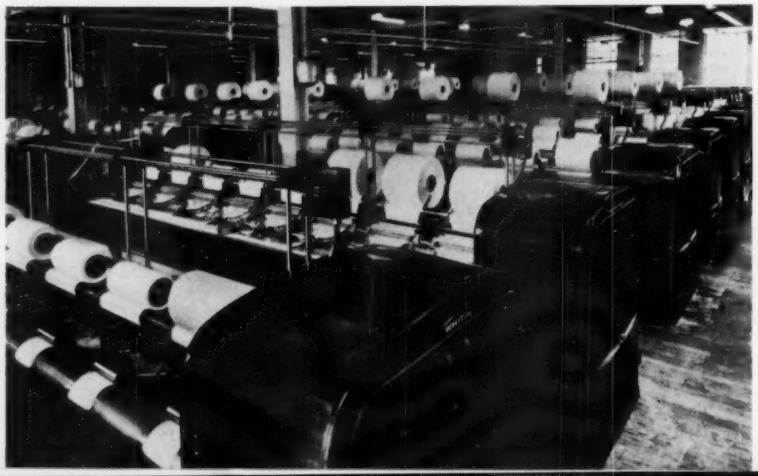
Birch Bros. Storage Compensator

Fabric Storage Unit

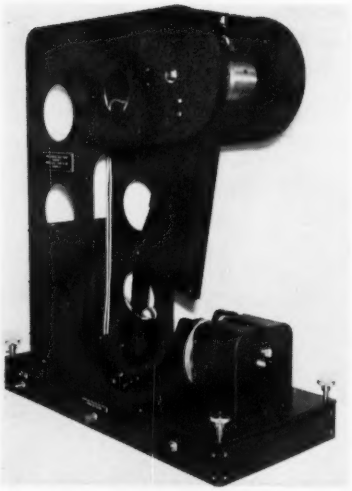
Birch Brothers, Inc., have placed on the market a new type of fabric storage unit for fabric in process. The unit, called a Storage Compensator, is reported to store automatically a given number of yards of fabric in a processing range, automatically taking in or releasing fabric as the fabric tension between adjacent machines decreases or increases. An optional automatic overload slip clutch drive for DC field rheostats can be supplied with the unit to give it full compensating gate versatility. *For further information write the editor.*

Environmental Test Unit

A new environmental test chamber for use with the Instron tensile testing instruments has been jointly announced by Fabric Research Laboratories Inc. and Custom Scientific Instruments, Inc. The chamber is reported to achieve temperatures from minus 98 degrees F. to plus 700 degrees F., with precise control of plus 1 degree to 2 degrees F. *For further information write the editors.*



New Whitin Comber



New Impact Tester

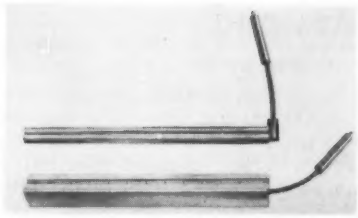
A pendulum impact tester, said to obtain the most reliable measurements of impact strength yet recorded for plastics, paper, rubber, boxboard and similar materials, has been demonstrated by United States Testing Co., Inc. Impact strength is calculated by measuring the energy lost by its swinging pendulum when it breaks through a sample. The firm reports its tester provides a fast, reliable method for product inspection and "in process" testing, the complete test procedure taking only a few minutes with no special sample preparation required. *For further information, write the editors.*

Measures, Grades Fibers

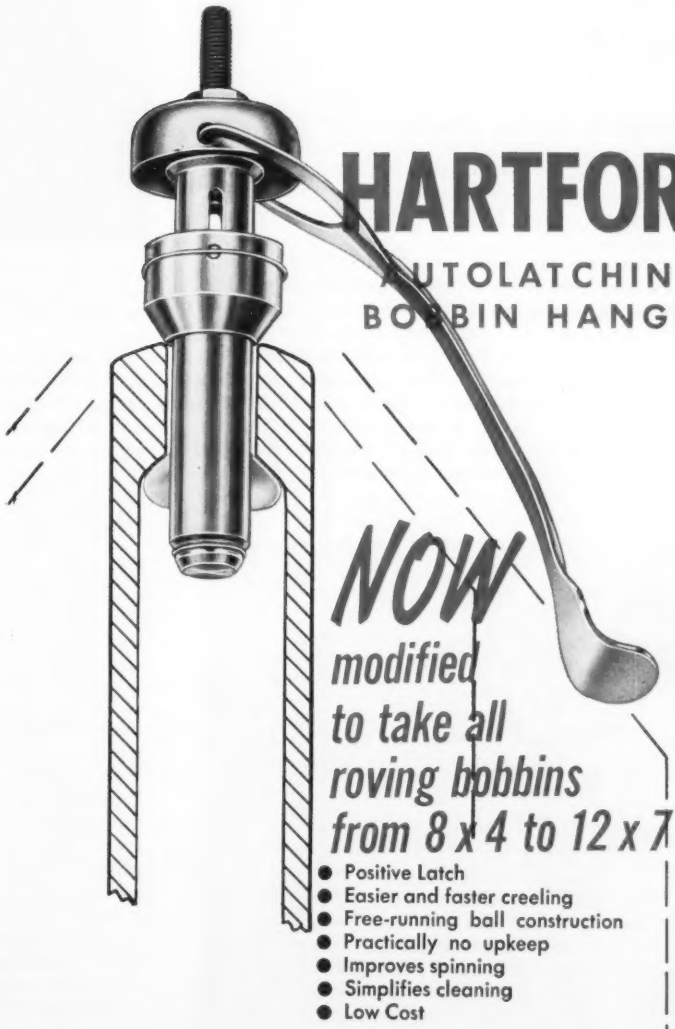
Introduction of a new machine for measuring and grading textile fibers, the EFFI (Electronic Fiber Fineness Indicator), has been introduced by Fiber Research Corp. The machine is a desk size unit which rapidly scans the diameters of fibers contained on a sample slide and computes the average diameter of the sample and the percentage of fibers whose diameters are within selected distribution groups. Operation is automatic and answers appear on direct reading counters. The machine has been designed so that it can be operated by a semi-skilled technician. An accurate one thousand fiber determinations can be made in about five minutes. *For further information, write the editors.*

New Type Static Bar

Addition of the "Super Service" static bar to its line of static eliminating equipment has been announced by the Simco Co. The bar, square in cross-section and totally encased, is reported to have maximum neutralizing efficiency. No maintenance other than an occasional brushing or blowing off of the points is said to be required.



The bar is easily adaptable to use in dirty locations, since nothing can fall inside it to short circuit it internally. *For further information, write the editors.*



Masland

(Continued from Page 34)

More than in most cases, the Masland story is one that shows that success in business, steady growth over many decades from a small to a large outfit, although it has brought financial rewards, has also meant profoundly felt responsibilities. For the Maslands their success has meant a deep involvement in community welfare, a full moral commitment to the continuing health of a business that provides employment for many hundreds of people.

Many years ago (in 1919 to be exact) C. H. Masland & Sons, having outgrown their plant in Philadelphia, bought an extensive tract of land in the country town of Carlisle, Pa., not far from Harrisburg. There a new plant was built which has been enlarged many times since. As one of the principal employers in the town, Masland has established close and cordial relations with the people of Carlisle and the surrounding community. Masland in 1944 established a profit sharing plan for its workers, the first carpet company to do so. Persons who work with the company are not called employees but "Masland associates". And now that Masland sells its own products through its own sales force directly to retailers, it prefers to call them also, not customers, but "retailer associates".

The cultivation of warm, friendly relations with people in and around Carlisle and throughout the central Pennsylvania region is a job that all the Maslands and others on the executive staff work at full time with no days off. Frank E. Masland, Jr., for example is a vice president of the board of trustees of Carlisle's own Dickinson College which he attended, and is a trustee of Carlisle's Allison Methodist Church. R. Paul Masland, first vice president, is a deacon of the town's Second Presbyterian Church.

ON THE GO—Four generations has not weakened the Masland drive to work hard. Here William S. Masland, secretary-treasurer and great grandson of the founder, gets ready to do some arduous traveling.

NOT ALL EXECUTIVES ARE MASLANDS—G. Richard Keim, vice president for special services, is one of almost 1,000 Masland "associates" who are not members of Masland family.

An important element in Masland's vigorous program of community relations is the company's guest house, Kings Gap, located on the top of wooded South Mountain about 14 miles from Carlisle. Built of native brown stone quarried from a nearby mountain, the big mansion, styled after an Italian villa, has 24 rooms. From its broad terrace there is a magnificent view of the surrounding countryside.

Kings Gap is used, of course, as a hospitality center and guest house of Masland employees, particularly its sales force, and for the entertainment of customers. But it is also used as an important community relation tool. Club and community groups for miles around make use of it for meetings and rallies or for just plain visiting to enjoy the spacious magnificence of its big, handsomely furnished and, of course, Masland-carpeted rooms. The community usefulness of Kings Gap reaches its highest level every spring at Easter time.

During Easter week an illuminated cross on top of the mansion can be seen for many miles through central Pennsylvania. On Easter morning, a sunrise religious service is held at Kings Gap cooperatively by a number of local ministers. Last year over 1,300 persons rose before dawn to drive up the winding mountain road to attend the services at Kings Gap.

In the overall task of creating "a face" for Masland that will be quickly recognized by the public as a helpful and friendly one, no small part is played by tne activities of Frank Masland as an explorer and adventurer in many parts of the world. For many years, the president of C. H. Masland and Sons has managed to find time from his duties to live a rugged outdoor life. He participated in no less than four trips down the awesome rapids of the Colorado River; he was the leader of an exploring expedition to the Galapagos Islands in 1951, and he was part of an expedition in the same year that explored the jungles of the Darien in Central America.

As a result of his activities as an explorer, Masland has been much in demand as a lecturer. His fine color movies of his dangerous trips have thrilled many audiences. Needless to say, these appearances as lecturer and exhibitor of travel and exploration films by Masland have done much, in an indirect, but nevertheless effective way to win friends for Masland products.

A man as adventurous in his personal life as Frank Masland, Jr., is also adventurous in his business activities. Under his leadership C. H. Masland & Sons has pushed boldly into new fields in carpet manufacture, notably in the use of man-made fibers, the "science" fibers as Masland likes to call them. These new fibers, by opening a rich variety of fresh perspectives for soft floor coverings, have brought about a renaissance in the carpet industry, he believes. No longer dependent upon wool and cotton, the industry, he often points out, aided by specially engineered rayon, nylons, and such even newer fibers as saran and the acrylics, is now able to offer products harmonizing with the modern consumers' desire for attractive new styles.

Along with the new fibers, Masland credits, as an inspiration for progress, the new techniques for carpet manufacture. Tufting and knitting he sees as enriching and enlarging the established weaves as methods of making carpets. Under his leadership, the Masland company has also brought out carpets made with texturized yarns.

Under the impetus of these new fibers and new manufacturing methods, the carpet industry, Masland said recently, "has made more progress in the past ten years than in the previous fifty."

He sees even greater progress in the future. "We are in a very fortunate industry," he says, "since nearly everyone wants the product we make. They want the warmth and comfort, the quiet, safety and beauty that is inherent in carpet.

"We do not need to create a desire. We need to create products, that meet the existing desire and to find ways and means of putting them in the hands of the consumer at a price she can afford to pay. This will call for much research at the production level and in advertising, merchandising, and selling."

In these words intended to apply to the entire carpet industry, readers may well envisage the Maslands' (and their associates') blueprints for the future of C. H. Masland & Sons. And it will be a bright future, you can depend upon it.

Outlook (Continued from Page 30)

At the retail level independent stores—department and specialty stores—account for a substantially greater part of total textile apparel volume than chain stores. However, there are many independent stores, while there are only a few chain stores. The chain store buyer is a big one, whose orders have an appreciable effect in keeping looms in operation.

When there was a great surplus of looms, this fact had considerably more importance than it does today. However, the independent store sells merchandise at much higher price points than the chain store. Chain organizations have made major efforts to trade up, in keeping with the increase in consumer income and the migration of families up the income scale. But for many, if not most, end products, the spread between average price in independent and chain organizations has probably tended to widen, rather than the reverse.

Mill, Converters Should Review Price Policies— It is not clear whether the fabric distributor is pricing his fabrics primarily to meet the need of chains, which place the largest orders, or the needs of independent stores, which sell the biggest volume of textile-apparel merchandise and sell it at higher prices. There is usually some pressure from cutters on the distributor to provide fabrics which will fit in to fixed price lines. If this pressure is too great, perhaps the fabric distributor should review his customer list, to discover whether he is getting his share of the larger and more profitable independent store business.

Europe (Continued from Page 46)

Russian Man-Made Fiber Factory—Friedrich Krupp, of Essen, West Germany, has received an order from the Soviet Union to construct a $4 million man-made fiber plant. This would be Krupp's first big Russian order, and it would be Russia's most modern man-made textile factory when completed in about three years.

Dutch Finishing Costs Rising—International Association of Textile Dyers and Finishers, which recently met at Holland's textile center of Enschede, heard leading Dutch textile man report that finishing costs had gone up from 19 to 24% in five years starting 1950. Dr. J. Geerkens, president of Cotton, Rayon and Linen Industries Association said that the international dyers group had done a good job in pushing the international tradename, "Felisol" as a color-fast label.

New Swiss Color Dye Process—Ciba, Ltd., of Basel, is suggesting that its Cibacron dyes be used for cellulose fibers. These new dyes, company experts says, produce light fast colors and withstand solvents and boiling water. They are being made available in eight colors which can be blended: scarlet, yellow, green, turquoise, green, blue, brown and gray.

French Develop Research Center—The Bezons research center of Compagnie Industrielle des Textiles Artificiels et Synthetiques will have a third wing added, according to Charles Chatin, committee head. Firm is France's largest producer of rayon staple and yarn with monthly output of 4,000 tons—or about three-quarters the nation's total.

New Blouse Fabric

A new woven blouse fabric, a combination of Taslan chromspun and nylon, which is said to resemble tissue faille and possess a "sand crepe" look, has been developed by Beaunit Mills Inc. for Fall selling. The Taslan textured yarn process is reported to give the cloth body to permit the application of a wide range of colors and print patterns.

Aluminum Fiber Rug

A multi-colored aluminum fiber rug, an innovation in floor covering, has been created by Marianne Strengell for Aluminum Co. of America. Miss Strengell selected 30 shades of aluminum metallic yarns and stranded them into 19 of her own color combinations. The rug, six by twelve feet, is approximately 75% aluminum fiber, excluding the black pile stripes.

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THE Kenyon PIECE DYEWORKS INC.
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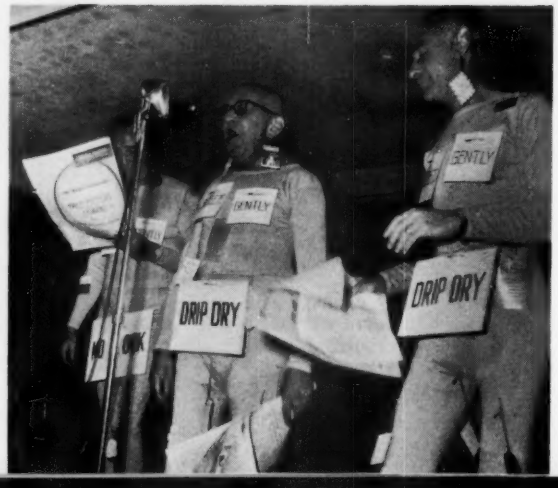
Textile men

COMEDIANS ALL—The TDI show this year was unusually well received. The plot, such as it was, concerned the dream life of a converter and his improbable adventures with a new miracle fiber—one to end all miracle fibers. The pictures below are scenes from this grand opera.



DISTRIBUTORS INSTITUTE, INC.

NEWS AND COMMENT

frolic at TDI golf party

GOLFER—Most of the converters and their guests played a little golf. Here one of them gets ready to sink a long shot.

RELAXERS—A lot of the fun was the sheer pleasure of sitting outdoors and enjoying the fresh air.

SHOWMAN—One of the performers renders a touching ballad in costume.

SWIMMERS—Sunny, warm weather drew many guests to the pool. Some actually got wet outside.

AUDIENCE—Here is a part of the audience that enjoyed the TDI show.

Knitting Show

(Continued from Page 38)

switch has been added for crank speed in fixing work. Another innovation on the ATR is the undersole looping in children's socks.

LADIES "400-NEEDLE" MACHINES

The 400's which were shown included the following:

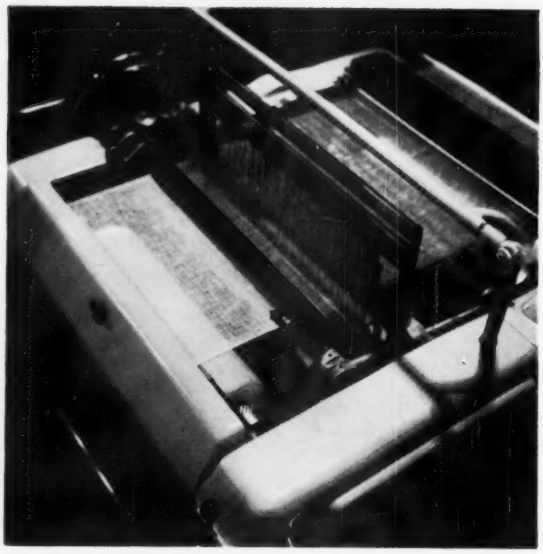
FIDELITY MACHINE CO. showed their Electronic 400 and 474, now with 2 feeds and a positive drive pattern drum geared to the cylinder. Other features are an air pressure stitch tension take-up, a Y-heel, and a delayed action loose course. Regular 15 d. nylon was run in plain and micro-mesh styles.

LA MODE HOSIERY CORP. exhibited the Italian-built Santoni in 400 and 472 needles; in regular or sandal foot and demi-toe, plain, micro, or stretch. One machine which created considerable interest was their Model "Gamboletto" which makes a plain or micro knee-high stocking with a knitted-in elastic top, which eliminates sewing on an elastic fabric top.

SCOTT & WILLIAMS recent "seam-free" 400 machine developments included a new stocking length control on their model KN and a new loose-course positioning. The former, on their 474-needle, is actuated by the amount of yarn drawn in by the sinkers. An air and hydraulic device causes the cylinder to adjust the amount of stitch draw by the needles, to effect an integrating stitch differential (ISD) and to produce more uniform fabric, with a plus or minus tolerance of ¼ inch in the overall stocking length. Their new loose course device, also on the 474, positions the looping course in the toe 4 courses away from the gore end there, for easier and more positive looping work. The company had two 400-needle and four 474-needle machines in operation on various one- and two-thread constructions. One 474N machine delivered the stocking right side out upon completion of the knitting cycle—the Show machine being the first one made to do this. A new 2-feed mechanism designed for the 400-needle KN, and available also for the 474, for running 2 ends of stretch nylon yarn in the leg and welt, reduces the knitting cycle to 12 minutes per stocking.

MORRIS SPEIZMAN'S newest 400, Carolina Model K2FS has an overlapping feed when changing from single to double feed to overcome pin-holes. It also has vacuum-type take-up, an electric stop-motion, and an automatic oiling device for needles and sinkers. The machine running at the Show had double selector drums, making a 2-feed micro-mesh style, and incorporating a diamond design lace-band and in the shadow welt.

STAROBA of Canada showed a 400-needle machine built in Italy by Moretta, running 2 feeds on a microfilm style with a small lace band in the shadow welt. This machine also operates as a 2-feed machine while running on plain stitch. In addition to the Y heel it also has a small gusset-toe attachment. This machine has a 2-roller device for fabric tension and take-up. It produces string-work, with in-turned welt and draw separating thread. The Moretta PVG machine for knee-highs with a knit-in elastic cuff did not arrive in time for the Show. One interesting machine at this booth was the Sirco Jet loom in 18" wide reed. In this width the filler thread is projected across the shed by air alone, but in a 54" width (not shown) the air is supplemented by the weight of a droplet of water at the yarn feeding end. Some fine fabrics were exhibited as produced by this loom, but as with all



An interesting exhibit at the Staroba booth was the Sirco shuttleless jet loom with 18" reed.

shuttleless looms, the selvages are irregular. Two similar looms were announced in Europe a year or so ago, the Svaty Jet looms, built by Kovo of Prague (Czechosl.)

U. S. HOSIERY CORPORATION (Machinery Div.) exhibited the Booton English machine in 420 and 474 needle models. Both have been improved by addition of 2 feeds for plain, micro or stretch; a new air take-up; and automatic lubrication. In addition to these 400's, the exhibit also included a blind stitch seaming machine for underwear and outerwear, made in Germany, and two Mauser (German) special sewing machines.

With due respect for existing patents controlled by one or the other builder, there have been considerable mechanical developments for making multiple-gore heel and toe gussets; underfoot looping; advanced looping-line; stitch graduating devices for better welt-to-ankle fit; and finally for producing clear and uniform stitch fabric from regular and stretch-type monofilament nylon yarns. This latter development is very recent and consists primarily of either a form of yarn measuring while stitch feeding, or pneumatic or other form of fabric take-up, incorporated into a machine in which the sinkers usually advance the fabric away from the needles. One machine, the S. & W. "KN" has both stitch control and air take-up.

The BENTLEY ENGINEERING CO. booth on the main exhibition floor was given over to sample display and reception space. Visitors interested in newest Bentley developments were taken to a room upstairs, where several late model circular hose machines were shown, together with samples made on these and other Bentley machines.

Included were a single-feed machine for wrap designs on broad rib or links, or combination patterns in the leg; a 36-step pattern Komet links machine for 1 x 1 or 2 x 2 tops on knee-high hose; a 3-feed jacquard machine with solid sole; a combined Jacquard and links; a links machine making terry fabric, and and knot tyer. Not shown, but in the line is Bentley's counterpart of the S. & W. "K" machine—their KL-400. This has a brush tension device mounted above and below the needles to eliminate stitch distortion

due to yarn tension differences. Another Bentley machine not being offered in the U. S., but of interest to foreign mills who want style versatility, is their Model M built by the William Cotton Ltd. subsidiary. This machine is designed for all kinds of women's fine-gauge single-unit hosiery in all forms of heel and foot constructions, including the English foot and French foot. Redesigned draw and main carrier drive mechanisms, together with new type sinkers and catch bar give the machine a reported speed of 100 courses per minute. A new pneumatic camshaft air-brake permits operating at higher "narrowing" speeds.

F. F. OUTERWEAR MACHINES

Although the newest multi-section cotton type hosiery machines were part of the exhibits of TEXTILE, LIEBERKNECHT and REINER, as in the past, these big machines cannot be operated in an exhibition hall and were shown in actual mill operation in nearby Pennsylvania mills. This did not mean, however, that this type of machine was left out of the Show entirely.

WILDMAN JACQUARD COMPANY had 2 new single-head outerwear machines in operation at their booth. These were their Model TFS with 30" needle-bar for sweater bodies, equipped with attachments for V-neck, lace, and a wale-spreader for cutting line demarcation on cardigan fronts. The companion sleeve machine, Model TFSS with 18" needle-bar was also equipped with a lace and a striper attachment. Both models were in 21 gauge (14 n.p.i.) , and with all sinkers and no dividers.

Building of this single-head machine for sweaters has been carried over by Wildman from their similar type hosiery machine (which has been discontinued) and includes several automatic features of the latter. These sweater machines have a transfer bar aligning holder to facilitate running-on ribs, overhead storage of loaded transfer bars, and retractable filler points for closing up widening holes. In addition to present standard attachments it is reported that the company may shortly announce one for making varied design panel effects on these machines.

Both TEXTILE and LIEBERKNECHT also showed their multi-section full-fashioned knitted outerwear machines, as did ROBERT REINER, but here again, these were shown in outlying mill operations. In the case of Textile and Reiner these are converted from hosiery frames, while Lieberknecht's is a completely new machine.

The Reading full-fashioned outerwear machines are mostly 21 gauge and include as standard attachments: lace, 3-carrier horizontal striping, welt, intarsia patterns and combination lace and color designs, drop-loop for front "marking" and automatic draw-off motion. In addition, the machine has semi-automatic rib transfer through perfect point alignment. The "filler point" produces a 1/2-loop transfer similar to the non-run hosiery stitch.

The Kalio sweater machine, built by Lieberknecht, is an all new 12-section machine with 30" needle bars, center controls, V-neck attachment, filler points, 4 narrowing fingers in each section. It is equipped with 4 yarn carriers, but has provision for 3 additional carriers.

ROBERT REINER, INC. have discontinued converting old hosiery frames into full-fashioned outerwear machines. They are concentrating instead on their newly-built, 4-section, fully automatic Cotton-type body and sleever machines. The body machine has a 28" needle-bar, while the sleever has a 32" head for knitting two-at-once sleeves. Both machines operate at 50 c.p.m. speed.

YARN PREPARATION EQUIPMENT

FLETCHER WORKS showed their new "Master-Duplex" double twister with 5" diameter rings and 9" traverse for 5 lb. capacity taper-top package of heavier-denier nylon sizes and bulk-spun yarns requiring large continuous yardages. A 6" ring machine has also been built and is in mill operation, handling up to 10 ply 210 d. yarn.

An improved "Speedex" winder was in operation, redraw winding onto bottle bobbins and up-twist spinner bobbins at average yarn speed of 750 ypm.

A brand new 30" Junior Extractor, of stainless steel was not hooked up, but floor demonstrated. This was designed to accommodate 15 tubes for single deck loading from the package dyeing machine. This is the first time this was shown anywhere.

FOSTER MACHINE CO. exhibit featured one machine, their model 202 automatic cone winder of particular interest to knitting mills spinning their own yarns, as well as spinners and yarn processors generally. This coner now has all traverse and drive cams enclosed for positive "oil mist" lubrication and to exclude lint and dirt. Pirn replacement is automatic at run-out or break-back by the "travelling tender" which is track supported around and above the machine. An endless belt inside the machine carries the ejected bobbins to a "bobbin sorter" at one side. Another new feature is the incorporation of a mechanical knotter: the American "Boyce" (weaver's knot) for cotton, or the English "Cook" (fisherman's knot) for fine worsted or slippery synthetic fiber yarns.

U. S. TEXTILE MACHINE CO. had none of their throwing machines operating at the show, but featured the products made on their new "Acme Texturizer", for processing modified filament nylon yarns into the "Taslan" and "Ban-Lon" types. Also shown were glass fabrics made on their recently perfected "Heavy-Duty" down-twister.

UNIVERSAL WINDING CO.'s exhibit featured yarns and products made on their new "Superloft" stretch and bulk yarn machine developed during the past year. This machine produces a "false-twist" modified nylon filament yarn, which heat sets in its plastic state on the spinner, after which some twist is backed-off while it goes through a hollow false-twist spindle. This process is also known by some

ON SHOW—A corner of the big auditorium at Atlantic City showing the display of W. F. Fancourt Co., manufacturer of finishing materials.

UNDER PRESSURE—Mr. and Mrs. Benjamin Fried of Scotchcraft Mills, Bronx, N. Y., watch a working model of Du Pont's yarn texturizing machine. The machine produces "Taslan" bulked yarns by blowing a jet of compressed air into a filament yarn moving past a nozzle. The air disarranges the individual filaments, giving greater covering power to the yarn.

processors as the "Permatwist" process. The yarn, which has been known in the market by the trade mark "Fluflon" has now also been given a new trade mark "Saaba", said to describe its softness.

"Taslan" textured yarn production for which they recently secured U. S. Pat. #2,783,609 was shown by DU PONT by means of a single head sample demonstrator. This consisted of running the filament nylon yarn past an orifice which emitted periodic air blasts to force some filaments into ringlet-loops. These loops, together with some broken filaments, produce in turn in the fabric a minute cover which breaks down light reflections and reduces the smoothness of hand common to filament nylon woven fabrics.

AUXILIARY MACHINES

Inspection Machines

Automation has been carried still further on the hosiery inspection machines than before. A principal feature of all these machines is the turning of the work automatically to guard against snags etc., and to reduce operator manipulations. Counting and automatic transport of the inspected work carry this theme still further in several models. Every attempt is made here to carry the work up to and away from the operator to increase the per-hour-output of the operator without increase of the work-load.

MARVEL SPECIALTY CO., INC. demonstrated a new automatic inspection unit for all types of infant's, children's and men's hose. The unit is self-contained and permits easy moving about the mill. Turning is done before or after inspection. Inspected work is deposited into accepted work hopper while rejected work is put into another one.

SOUTHERN TEXTILE MACHINERY CO. had in operation their latest models, 4000, 5000, and 6000 air operated SOTCO inspection machines for women's nylon stockings.

SPECIALTY MANUFACTURERS & SALES CO. showed a new machine; their P. H. T.3, pneumatic hosiery turner for all types of socks, which turns and counts the inspected socks and deposits them into a basket. This is made as a dual unit, back to back to serve two operators. Their "Inspectomatic" for automatically handling, counting and stacking ladies' nylon stockings, was demonstrated with an additional feature. This consists of having an overhead device to feed the stockings up to the operator at the board in the manner of "string work" by the seaming chain at the toe, not being severed at seaming completion, a method for which patent is reported to be pending.

SYNTHANE CORP. operated a non-snagging, examining and turning form with a groove at the small end to prevent the seam or welt from causing snags in the stocking which is turned before inspection. A slot at the welt end has a graduated scale length indicator.

Boarding Machines

PARAMOUNT TEXTILE MACHINERY CO. demonstrated their brand new automatic carriage and form actuator Model "Acfab", for use on their horizontal nylon hosiery preboarding machines. Automation here, through a series of controls and switches brings the 24-form groups into position for work and carries them into and out of the retort. Increased production of from 30 to 40% is claimed by this device which is also under control of the operator for error correction by means of a foot switch. They also showed their smaller capacity "Presetter Jr." and their air-cooled boarding table, with adjustable wet goods troughs, with air ducts built in, immediately under the table.

A newcomer among half hose boarding machines was operated by SPECIALTY MFRS. & SALES CO. This is Model H320 built by Etab. Maurice Heliot, of Troy, France. This has a vertical type retort, which handles 24 sock forms under pressure, while another 24 form unit outside the machine arranged in a rotary flipper-type base mounting is being reloaded for the next cycle.

QUALITY CONTROL TOOLS

Among the quality control "tools" which held the interest of production men at the Show were the following:

The *"Marvel Meter"* is a course counting device which electrically indicates on its dial the number of courses in the fabric inserted in the machine under a uniform tension factor. The dial also has secondary pointers for minimum and maximum course readings for definite constructions and standards. The original model was designed for fine denier nylon stockings which were difficult to count manually under previous systems. A recent new model has also been adapted for full fashioned outerwear fabrics and is already in use in a number of such mills.—MARVEL SPECIALTY CO., INC.

The *"Stitch-O-Meter"* is used to measure the speed at which a yarn feeds into a circular fabric machine so that all feeds can be synchronized for uniform stitch setting of all draw cams.—SUPREME KNITTING MACHINE CO.

The *"Volumet"* hosiery control system evolves around an upright pressure-loaded stocking form device having indicator guides thereon for measuring the several portions of a ladies stocking for size, and fabric variations from machine to machine, or head to head.—JOS. C. COBERT ASSOCIATES.

The *"Wesco"* electric stop motions consist of several forms as the yarn end break or drop off; the press-off, hole, knot and end detectors; and retractable needle-protectors. They are primarily designed for and mounted on knitting machines, although some are applied to sewing machines.—STOP MOTION DEVICES CORP.

A new knitted *fabric shrinkage gauge* was perfected in time for the Show. This consists of a template marking for the fabric before test while mounted upon the pins of the machine; an expanding framework which again expands the test fabric to its previous machine setting. A calibrated steel gauge reads the shrinkage in a percentage figure.—U. S. TESTING CO., INC.

A new singles *yarn twist tester* for counting turns per inch in S and Z twist has a direct reading Veeder-Root reset counter.—U. S. TESTING CO., INC.

The *"Tensalator"* is a new yarn tension control for knitting machines to work alone or in combination with the yarn stop motion. A weighted follower is set for a definite gram reading, and this tension is smoothly maintained throughout on the yarn feed.—STOP MOTION DEVICES CORP.

The Wolcott *"Knitmaster"* stitch gauge determines the depth of the stitch cam draw on a latch needle machine for equalizing the amount of yarn drawn in by each section.—MAC ROTHKOPF & CO.

The *HATRA*, English developed yarn meter is used to read and interpret the linear speed at which the yarn is feeding into the needles of multi-feed circular machines.—JOSEPH PERNICK CO., INC.

The *Lindly* automatic yarn defect analyser is a photo-electric cell device used to check and evaluate various yarn defects as slubs, fly, doubled ends, strip backs, broken filaments, etc., while the yarn is going through process.—LINDLY & CO., INC.

The Mahlo *Textometer* automatically controls the moisture content of fabrics emerging from dryers through contact electrodes which transfer conductivity readings in moisture values, in turn activating a speed-regulating pilot motor.—COSA CORP.

Four physical *testing machines* of interest to mill men were the IP-4, incline-plane tensile tester with the ASTM-approved clamps for hosiery testing; a twist counter complete with singles yarn twist examiner; Model X-5 yarn and thread tensile tester for ASTM compliance, and an easy operating Scott-Clemson flat bundle fiber tester for consistency of results in fiber evaluation.—SCOTT TESTERS INC.

The *"Hamilton Yarn Meter"* is a new yarn measuring device developed for use on all types of knitting machines to improve the uniformity of stitches and reduce excessive cloth shrinkage. The machine records upwards of 1000 stitches and the record can be noted for a duplicate re-run of the same fabric, style and construction. A built-in electro magnet and universal knee permit easy machine mounting of the meter.—SCOTT & WILLIAMS.

The Kidde *"Compensator"* is finding increased interest among manufacturers of circular knitted swimsuit fabrics, to maintain accurately controlled tension on the rubber yarn feeds in many of these fabrics.—KIDDE MFG. CO.

OTHER EQUIPMENT

Automatic lay-up machines were shown by CUTTING ROOM APPLIANCES CORP.; J. A. FIRSHING & SON, INC.; and UTICA NOVELTY & MILL SPECIALTY CO.

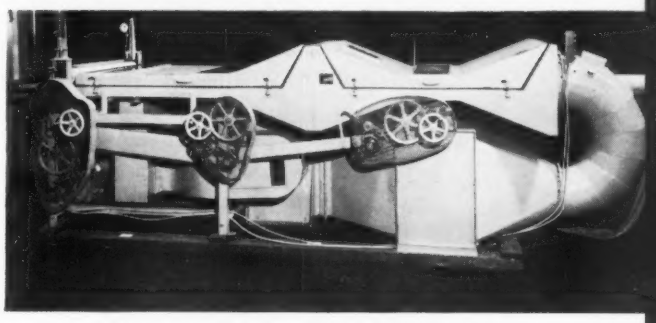
AMERICAN SAFETY TABLE CO. showed a new development of a forming and creasing machine for pockets, flaps, cuffs and collars. This "finishing machine" trims, turns and forms, and presses automatically through an electro-pneumatic system, operating at 85 p.s.i.

Cuff-turning also has come in for automation and two types of such machines were shown. One is the "Cuffomatic" for turning double and triple roll cuffs on bobby socks, a 4-at-once air operated machine shown by SPECIALTY MANUFACTURERS & SALES CO.

The other type is the turning, cutting and stacking machine for the 2 and 3 inch tubular-knit ribbed cuffs which are sewn on gloves, mittens, underwear and outerwear. One such machine was shown by UTICA NOVELTY & MILL SPECIALTY CO. and another by J. A. FIRSHING & SON, INC.

SOUTHERN TEXTILE MACHINERY CORP.'S newest version of their "Sotco" Standard "P" looper for outerwear features a new yarn tensioning device.

JOSEPH PERNICK CO., INC. operated one section of their new "Aero-Dyne Dryer" process for drying tubular knit goods of all fibers and blends. This machine handles the goods directly from the extractor in rope form and delivers it either flat, folded or in roll. A new balloon type, high-volume, air system permits high speed fabric running, and a spreader and controlled tension in the machine put "set" into the fabric. Delivery end can be coupled to a calender.



Pernick's new Aero-Dyne Dryer for tubular knit goods.

SMITH DRUM & CO. showed their general line of dyeing machines in several types and models, including one laboratory package dyeing machine. One interesting machine was a single head demonstrator model of their pulsating skein-dyer which had on it the new polyethylene sheet cover developed by the American Viscose Corp. This cascade type machine when equipped with this new cover gives it a steam and heat trap for which they claim better penetration, less hydro-sulfite consumption in vat dyeing, and less oxidation. Less skein disturbance and better winding yarn are also claimed.

CARRIER CORPORATION had in operation a unit of their new and revolutionary "Rotospray Weathermaker" central air conditioner for textile mills. This new system eliminates the use of apparatus rooms and towers as it can be suspended from the ceiling, installed on the roof or hung from the wall. More accurate humidity control is claimed. "Can't Clog" nozzles and a new "spin-dry" principle, which removes water droplets, lint and foreign matter are special features.

WALTON LABORATORIES showed in addition to their humidity controls, indicators, and smaller unit "moisture conditioners", several models of the humidifiers and dehumidifiers for industrial use for yarn storage rooms, etc. ■

REPORT FROM JAPAN

Japanese producers voluntarily limit exports of rayon staple; rayon filament sales are poor

By B. Mori

OSAKA—Manufacturers of rayon staple fiber here have set up an agreement among themselves to limit exports to each customer country. They have also agreed to set an export quota for each company of their group. Object is to prevent exports at extremely low prices which had resulted from recent over-production. While rayon fiber producers are anxious to promote exports, this quota and export-price-fixing move is last-ditch remedy, recognizing that export without profit is unreasonable, and only tends to "spoil" the buyers.

Exports of staple in first half of this year were 10,000,000 pounds—more than in any other *full* year but one since the war. And the outlook was, when quotas were agreed upon, that sales for this calendar year might exceed 25 million pounds, easily a new post-war high.

Filament Rayon Sales Drag—Filament manufacturers, too, have been having sales problems, due, also, to the general textile consumption slump which seems to have hit all fibers but silk in the domestic market during eight or nine months through June.

Filament yarn makers asked the Government to permit a 20% production cutback—a proposal which met with unhappy reactions. But the manufacturers have a legitimate complaint, in that recent advance in production was direct result of Government requests, and even threats, in order to supply more to local market and to bring prices down. This move, it seems, was particularly poorly timed.

Government Enforcing Quotas—The Government has resumed export licensing of mixed-cotton clothing and other secondary products for United States, under new regulations which bring such goods under quota. It is understood that goods containing 30% cotton and 70% rayon staple; those containing 40% cotton and 60% filament rayon; and those containing 12% silk and 88% cotton are to be considered "cotton goods" and subject to quota.

In another move, which also demonstrates sensitivity here to tremors of complaint in the United States, the Government is getting stricter on exports of cotton cloth to Hong Kong for manufacture into clothing for export to U. S.

Anxiety of Japanese government to see that quotas are actually observed is due to realization that failure of quotas may quickly lead to demand for new laws in Washington to curb imports effectively. In the face of this possibility, Japanese regard quotas as distinctly lesser evil.

More Cotton Finished Goods Exported—On other side of ledger, the Government will take advantage of "10% shift" provisions of quota agreement, to shift 10% of slow-selling cotton cloth quota over to cotton secondary products. This will permit larger exports equal to about 11 million yards—of small clothing items which do not have specific individual quotas. In other words, this will not increase the "controversial" shirts and blouses, but will be spread among many other items of small quantity.

Wool Fabrics Output Cut—The wool business is having its troubles, too. Spinners have cut production 30% in July and August to reduce inventories which are said to have doubled in twelve months.

The race to ship wool fabrics to U. S., to beat out higher tariffs which become effective above quota point, has tended to lower prices considerably. So weavers and exporters are setting minimum selling prices by agreement.

PAPERS OF THE
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fabrics in industry

Millmen seeking new markets will benefit from this review of specialized uses of fabrics in industry

By Edward A. McMaster

INDUSTRIAL textiles make up a large segment of all textiles made in the United States, approximately 30%. Their end-uses range from baby carriage fabrics to casket cloth, from ribbons for office machines to huge conveyor belts, and from sewing threads to ropes.

Over 2/3 of the poundage is used in three areas:

1. The rubber industry
   In hose and belting yarns and fabrics
   In tire cord and fabric
   In fuel cells, life rafts, etc.
2. bags and bagging
   For flour, feed, fertilizer, and mail.
3. cordage and twine.

Industrial textiles use a wide variety of raw materials: Jute, cotton, wool, silk, linen, rayon, and the synthetics, glass, even metals. Poundages in recent years have been about 1/3 jute, 1/3 cotton, and 1/3 man-made fibers. These proportions may change, however, if a recent prediction proves true—that 70% of the cotton duck used in the industrial field will be replaced in five years with coated fabrics of man-made fibers.

Constructions range from dust cloths, weighing one ounce per square yard, to belt ducks, weighing 41 ounces per square yard. Webbings go as high as 72 ounces per square yard. Tensile strength may be as low as a few pounds per inch of width, or as high as 3,000 lbs.

The properties needed in industrial textiles are largely functional, rather than aesthetic, as in household and apparel fabrics. What difference does it make how a tire cord looks? It will be buried out of sight in black rubber.

Some of these properties are:

1. *Strength,* which is usually important in industrials. It is obtained in several ways:

   a.) by the choice of materials. For example, cotton was replaced by high tenacity rayon in tire cord. Now a stronger material—nylon—is making inroads into the use of rayon.

   b.) by construction. For example, strong hose yarns are made by twisting together as many as a hundred single yarns.

   c.) by treatments. For example, rayon and nylon filaments are stretched to develop high strengths.

2. *Controlled dimensions* are often important, as in tires, V belts, and fire hose. Here again there are several ways of achieving this.

   a.) Choice of materials—Use of such low-stretch fibers as Fortisan, Dacron, and glass.

   b.) Construction—Weaving with low crimp, like the filling in fire hose, and the newer conveyor belt ducks woven with a minimum of high strength filling to give low warp crimp.

3. *Flexing* may be important. High flex fatigue resistance can be had,

   a.) by choosing raw materials with good flex life, such as nylon.

   b.) by construction—high twist improves flex life.

4. *Adhesion* is important when the yarn or fabric is to be coated.

Here again choice of materials helps. Textiles made from staple fibers usually provide better adhesion than filament materials, because of the fiber ends. Perhaps bulk or textured filament yarns could be used to improve the adhesion to filament yarns.

Open weaves permit the coating materials to strike through the fabric.

The use of special adhesives is often necessary.

E. A. McMaster

Mr. McMaster is industrial fabrics development supervisor in the development department of the textile division of United States Rubber Co., Winnsboro, S. C. He holds a B.S. degree in textile engineering from Clemson College. Since his graduation in 1936 he has been with U. S. Rubber in various capacities.

Paper presented at the May 9 meeting of the Appalachian group of the American Association for Textile Technology.

Industrials are usually surrounded with specifications; such as strength, both tensile and tear, elongation, resistance to microbiological attack, resistance to flex-fatigue, resistance to heat aging, abrasion resistance, chemical resistance, resistance to weathering, resistance to flammability, thickness, twists, crimp, porosity, and many others.

Strict quality control and well equipped testing laboratories are part of the equipment required for making industrials.

Growth or increase in production has perhaps been slower than for other textiles, such as household or apparel fabrics. There are several reasons:

(1) They are not affected by fashions.

Replacements are made as necessary due to wear or failure. We have made conveyor belts, for example, that lasted for 50 years.

(2) They are dependent upon the growth of other industries.

(3) Substantial investment is involved in special equipment such as heavy looms or machines of special design.

For the same reasons, stability is more pronounced than for many segments of the textile industry.

Because of these special requirements, research and development plays an important part in industrial textiles.

Industrial textiles are broad in scope. Their many uses, under many conditions, require a multiplicity of properties. I will break them down into several categories and give the properties essential to each:

Laundry Textiles

Laundry textiles include flatwork ironer roll covers, laundry press covers, and drycleaning press covers. All must be resistant to heat and heat aging (up to 350°F); they must have good flex life and abrasion resistance; also, they must be fine textured, so as to impart a smooth finish to the fabric being laundered. In addition to these, each has requirements of its own:

Flatwork ironer roll covers must have high tensile strength and high tear strength. Cotton fabrics have long been used for this purpose. Also a fabric made of a blend of cotton and asbestos is especially good. It must be resin treated to give it all of the necessary properties. Another fabric for this use is one made of 100% Dacron. Arnel appears to be promising for this use.

Drycleaning press covers must have high porosity, whereas the other two laundry covers do not. Almost any fiber could be used, since the operating temperature is normally about 250°F. Cotton is the conventional material for drycleaning press covers, but a filament nylon fabric is very good, as is one made of a combination of filament nylon, asbestos, and cotton.

Laundry press covers must be resistant to starch pick up. A thermosetting resin will impart this property. Its coefficient of friction must be great enough to hold the material being pressed. If it is slick, the material will slide off. Nylon, treated to make it heat resistant, makes an excellent laundry press cover. So does a fabric made of nylon warp and cotton-asbestos filling.

Filter Fabrics

Filter fabrics are becoming more important with the growth of industry, the chemical industry especially. They must often be engineered to fit specific uses. The properties they must impart are probably the most complicated of all industrial textiles.

Dust filters must have exactly the right air permeability, open enough for air passage and to prevent blocking up easily, yet tight enough to prevent loss of dust. Napping the fabric may produce the correct effect. If used out of doors, they must be resistant to ultraviolet attack. In some uses they must be resistant to chemical attack and high temperature. They must have a degree of flex life and abrasion resistance. Cotton, wool, Orlon, Dynel, nylon, and Teflon are among the fibers used in this field.

Fabrics for liquid filtration are used for filtering chemicals, oils, paints, plastics, soaps, food, glass, ceramics, and many other materials. Their properties are numerous. They are: solids retention, gasket sealing, flow, crush resistance, dimensional stability, abrasion resistance (when the cake is scrapped off), resistance to chemicals and often to high temperatures and to bacterial attack. Their texture must permit easy cake removal. Many fibers are used in filter fabrics: cotton, Dacron, Orlon, Acrilan, Dynel, Teflon, and many others.

Laminating Fabrics

Laminating fabrics are also growing in importance and volume. The properties they require are: resin impregnation, (compatability with resins) dimensional stability, and resistance to high temperatures. In some uses they must have stretch control, tensile strength, moldability, and certain electrical and dielectrical properties. Glass and cotton are big in the laminating field. In recent years, synthetics have made an inroad into this field. The hydrophobic ones reduce the possibility of trapped moisture being turned into steam during the laminating process. The steam causes bubbles in the laminated material. A recent development is the use of Dynel fabric as overlay in laminating, acting as a binder or breaker between the base fabric and the resin and also giving a texture to the surface of the laminate.

Work Clothing

More and more attention is being given to work clothing and the fabrics which go into them. The utility work clothing, such as uniforms, overalls and and coveralls must have good appearance, long wear, and easy maintenance. They are usually made of cotton, rayon, nylon, or Orlon. The work clothing used around laboratories, chemical plants and the like, must have the additional property of resistance to acids, alkalies and solvents. Among the fibers going into the chemically resistant work clothing are Dynel, Orlon, Verel, Dacron, and Acrilan.

Another fabric in the chemical resistant field is fender fabric, used by garage men. It is thrown across the fender when a mechanic is working on the motor. The fabric protects the fender from chemicals on the mechanics clothing or on his tools. Battery acid is the main chemical involved. The fibers usually used in fender fabrics are cotton, Dynel, and Acrilan.

Plastic or Rubber Coated Fabrics

One of the biggest advances in industrial textiles recently has been the use of low twist filament yarns as the base for plastic or rubber coated fabrics. These are used as tarpaulins, tentage, inflatable warehouses, fuel cells, life rafts, and other protective covers. They are not as bulky as the ordinary tarp and tent fabrics. They are light in weight, but tough enough to take plenty of wear. Nylon and Fortisan X-36 are being used for this purpose.

In the tentage and awning fabric field, cotton has been king for a long time. Tentage is usually chem-

ically treated for resistance to fire, weather, water, and mildew. Now almost every known fiber is being investigated for use in tentage, especially Verel and Dynel, because of their resistance to burning and their ability to be shrunk so that the fabric can be closed tightly. Dimensional stability and resistance to ultraviolet attack make Fortisan X-36 a promising fiber in the tentage and awning field. Orlon is a good outdoor fiber and has been used extensively in awnings and deck chairs.

Another outdoor fabric is sail cloth. The properties desired are, mildew resistance, tear strength, weather resistance, and light weight. It must be tight enough to hold air, but not completely impermeable. Cotton, filament Dacron, nylon, and Orlon go into sail cloth.

Hose Fabric

A category of industrials which is used by the rubber industry includes hose yarn, hose duck, and belt duck. Hose yarn is braided to make an outer or inner lining for a rubber hose. However, some hose are made of 100% textiles.

Cotton and bast fibers have long been used in hose, because of their high wet strength and their toughness. Dacron is breaking into the hose yarn field, imparting high burst strength, flexibility, low moisture adsorption, chemical and bacterial resistance and other properties.

Some types of hose are still being made out of duck. These ducks range in weight from 16 to 30 oz./sq. yd. They are used in dredge sleaves, where sludge is vacuumed away, in couplings between railroad cars, and many industrial uses where they may be under air or steam pressure or vacuum. They must have high strength, good adhesion to rubber and, in some cases, high bursting strength. Many of these ducks are made of cotton, especially in cases where the fabric may come into contact with moisture. If the fabric is kept dry and if high pressure is needed, rayon may be used.

Belting and Conveyors

The belt duck business is a growing one, especially ducks for conveyor belts. The trend is toward longer and steeper installations; many are taking the place of short railroad and truck lines.

Cotton ducks have been the predominant fabrics in the past. However, spun rayon, filament rayon, filament nylon, and Fortisan X-36 are in the picture now. The important properties are high strength, low stretch, and, of course, adhesion to rubber. In addition, flexibility is needed in some cases. Resistance to mildew and flammability are sometimes desired in underground conveyors, such as those used in mines.

A very important property in belts which carry loose material, such as stone, coal, gravel, and grains, is troughability and the ability to withstand impact. This has brought about the use of filament nylon in the filling. Nylon imparts the necessary strength with fewer filling yarns and less bulk than cotton. The ideal conveyor belt fabric has low warp crimp and high filling crimp. Nylon filling helps accomplish this, the low gauge filament yarns crimping over the heavy warp yarns. Nylon's ability to yield to impact is valuable here. All of this means that there has been a phenomenal increase in the manufacture of belt ducks using cotton warp and filament nylon filling.

The use of low stretch warp yarns in conveyor belt ducks is most important. Dacron and Fortisan X-36 are being used experimentally. At present, one of the lowest stretch yarns available is cotton yarn treated chemically and mechanically to reduce its elongation to about 1½% at 10 pounds load. This process has the added advantage of increasing the yarn strength more than 50% and increasing the grams-per-denier 75%. U. S. Rubber Co. makes such a yarn and markets it under the name of Ustex.

Tire Cord

Of the many textiles used in rubber products, tire cord has received a tremendous amount of attention. This has been more or less mandatory, as the result of ever-changing and exacting technical requirements of tire cord. In this end use, there has been a succession of raw materials which have helped make improvements in tire quality and reductions in tire cost. Tire cost per mile is now less than 5% of the cost in 1906. Both materials and construction have played a part in this advance.

The first reinforcing material designed for tires was square woven cotton duck, usualy 17¼ ounces per sq. yd., and woven with 23 ends and 23 picks of 23/11 ply, made of combed Sea Island or Egyptian cotton.

The first radical changes in reinforcement came about 1914 with the development of cotton tire cord, which, instead of having equal strength in both directions, had strength in the warp direction only, the fine filling yarns functioning only as a means of spacing and holding the warp yarns together. Almost immediately the carcass began to last as long as the tread.

In spite of the higher level of tire mileage afforded by cord fabrics, tires continued to fail as the result of flex fatigue. Tire designers had come to realize the severity of the torture a tire undergoes as it rolls along a road. It has been calculated that every cord in a tire bends and twists more than half a million times every 1,000 miles.

In the early 20's, higher twists in both ply and cable were added to the tire cord specification to improve flex life. Prior to the realization of the importance of twist, tire cord constructions were more or less standard—23/5/3 ply having 17½ turns per inch in the ply and 7½ turns per inch in the cable; these twists being selected to give maximum strength. Ply and cable twists were increased to 21 and 9½ T.P.I. respectively, which provided a compromise between strength and maximum fatigue resistance.

Not only was quality improved, but costs were reduced, because now shorter staple cotton could be used. 1-1/32 to 1-1/16 American cottons replaced the more costly Sea Island and Egyptian cottons. Combing was discontinued and carded yarns came into general use. The construction was modified by replacing 25/5/3 cords with lower cost 12/4/2 ply.

One serious problem remained. Higher twist gave the cords high elongation, which permitted the tire to "grow" in cross section. Pulling out some of this stretch by tensioning the cord before it was put into the tire was found to be the answer. Elongation at the 10 pound lead was reduced from 12% to 6-8%.

High-tenacity viscose rayon was first introduced in the middle 30's. Then came World War II. Cotton was called upon for many military jobs in addition to tires. A better fiber was needed to reinforce tires made from the new synthetic rubber. High strength rayon provided the answer. By 1943, rayon was generally adopted for automobile and truck tires. Like cotton cord, it too went through a series of im-

provements. The finer deniers with high plies were replaced with heavier deniers and fewer plies. Today, 1650 denier 2 ply is the standard construction. In 1953, new super high-strength rayons went into production. Now nylon, first used in airplane tires, is making a major impact on the automotive industry. Nylon is strong and has outstanding bruise and impact resistance.

The properties required for the ideal tire cord are: high flex-fatigue life, high strength, low growth properties, resistance to heat, impact and bruising, low gauge and good adhesion or bonding to rubber.

Tubeless tires brought new problems in tire design. Cotton chafer fabric is giving way to thinner, stronger, special chafers made from high-tenacity rayon and nylon. This fabric is called chafer because it is used around the bead of the tire to take any friction between the bead and the rim of the wheel.

In chafer fabrics, the yarns should be stabilized, so that they will not slip on each other in processing. Yarn slippage will cause thick and thin spots, resulting in a faulty chafer. The yarns should be nonwicking, that is, they should not permit the passage of air. This has brought about the use of yarns made of coarse denier filaments. The fabric should be open enough for rubber penetration. Again, the ability to adhere or bind to rubber is important. And in some cases, abrasion resistance is required.

I have given you the properties which industrial textiles require and you can see that they are so varied and numerous that no one fiber can do every job. Each new fiber which comes along brings with it some property or combination of properties which make it useful in some fabric. These properties may not be suitable for industrials, but may have just the right hand or dyeabilty for consumer fabrics or knitting yarns. I believe that the most important properties which synthetics have, when applied to industrials, are high strength, resistance to bacterial attack, and resistance to chemical attack. Some recently developed synthetics are resistant to fire and this is becoming more and more important. Cotton is being treated chemically to impart flame and mildew resistance.

The new synthetics range widely in respect to properties. There is Teflon, which is inert to practically all chemicals. There is Fiberfrax, made of aluminum and silica; it will withstand heat up to 2300°F. At the other end of the scale, I came across a fiber which dissolves in water; no doubt, it would be useful for a practical jokester to use in a girl's bathing suit.

In some textiles a low stretch yarn is needed; in others a great deal of stretch is useful. In most, you want low shrinkage, for dimensional stability; but in others high shrinkage can be valuable, such as polyethylene and Saran in the manufacture of three dimensional fabrics, for upholstery or spacer fabrics. A chemically resistant fiber may be resistant to only one or two types of chemicals, but not to all, or it may not be able to withstand high temperatures. The ideal one would be resistant to acids, alkalies and solvents and also be able to withstand high temperatures.

A tire cord fabric has to be tough, flexible, and strong. It must have some "give", yet it should have no growth or creep. The ideal one would have these properties without having to be stretched before going into the tire or without having to be treated to make it adhere to rubber.

The fiber industry has come a long way, but there are still new worlds to conquer. I have no doubt but that some day there will be an ideal fiber for each industrial textile. This will make life simpler for product development engineers. I hope it won't mean that they won't be needed at all.

K. J. Winter

Winter on AATT Board

K. J. Winter of A. D. Juilliard & Co., Inc. has been elected to the board of governors of the American Association for Textile Technology Inc., to serve out the unexpired term of Arthur B. Cooke of Pilot Fabrics, Inc. Mr. Cooke resigned recently because a heavy travel schedule made it impossible to attend meetings of the board.

AATT To Meet Again Sept. 11

The first meeting of the American Association for Textile Technology next fall will be held in New York City on Sept. 11 instead of on September 4, as previously announced. The meeting will be held in the Della Robbia Room of the Vanderbilt Hotel, Park Ave., at 34 St. Zefran, Dow Chemical's new fiber will be the subject with O. R. McIntire, Technical Director of Dow's Textile Fibers Department as the principal speaker.

Interlining Dye Damage

The National Institute of Drycleaning reports that in recent months it has received an increasing number of complaints from drycleaners concerning car coats that develop stains from fugitive dyes contained in the coat interlinings. The trouble, the Institute stated, appeared to be confined to coats made of cotton poplin and other lightweight cotton fabrics that are interlined with wool shoddy. The Institute added that it has found no satisfactory way to correct the damage or prevent it from happening, if the soiled condition of the coat demands treatment with spotting compounds containing water.

W. Clay Hardin, Chief of the Institute's Textile Analysis Service suggested that a more selective use of rag for garmenting would solve the problem, since it appears in some cases that only certain fibers present in the shoddy contain the fugitive colors. Where these types are used, the shoddy should be processed to remove the fugitive color, Mr. Hardin explained. If these steps cannot be taken, the Institute recommends some other type of interlining material be considered.

For the DYER and FINISHER

Cibalan Navy Blue Dye

Cibalan Navy Blue RL Conc., identified as the 30th dye in the Cibalan series produced by Ciba Co., Inc., is reported to provide a good navy shade of this dyeing type. The color, according to Ciba, can be applied at all processing stages of the fiber in a neutral bath or, with the aid of Cibalan Salt S, in an acid dyebath. *For further information write the editors.*

Dacron Optical Bleach

Geigy Dyestuffs is now marketing an optical bleaching agent designed to produce brilliant clear whites on Dacron. Known as Tinopal E Liquid, it is said to fill a definite need as heretofore it was necessary to employ chemical bleaching to obtain whites on Dacron. The company reports the bleaching agent can be successfully used under a variety of conditions, is practically unaffected by pH, and may be applied in a Textone bleach bath, an anti-chlor treatment or in an oxalic acid-ammonium bifluoride graphite removal operation. *For further information write the editors.*

New Sandoz Colors

Literature describing two new colors is now available from Sandoz Chemical Works, Inc. Folders T-736 and 736a describe properties of Diazamine Blue BRG Conc., a new dyestuff in the firm's line of diazotized and developed colors. Developed with beta napthol, it provides a blue said to be desirably greener in shade on viscose and cotton. Also available is a folder describing Sandothrene Yellow NLGR Paste Ultrasperse, a vat dye said to have outstanding fastness to light even in pastel shades. *For further information write the editors.*

Research Data Available

Two Air Force-sponsored studies on textiles, one on the formulation of dyes for wool-synthetic fabrics and the other a statistical analysis of the effect of fungicidal treatments on cotton webbings, can now be obtained from the Office of Technical Services, U. S. Department of Commerce, Washington 25, D. C.

The first, "Development of Dyeing Formulations for Wool-Synthetic Blends for USAF Shade Blue 84," by R. J. Peirent and A. Katz, contains 110 pages and is $2.75 per copy (Order No. PB-121756). The second, "An Elementary Statistical Approach to Microbiological Research," by J. S. Mahan, contains 59 pages and is $1.50 per copy (Order No. PB-121713).

Fluorescent Tints

Arkansas Co., Inc. has developed two new products. Fluorescent colors produced under the trade name of Arko Fluor Tints are said to provide simple and positive identification (under ultraviolet light) when applied to woolen yarns at low concentrations. The tints are readily removable from the yarn by a light scouring operation.

The second product, Softener O R, is reported to be a new type of cationic finish. The softener imparts an exceptionally soft and lofty hand to knit fabrics composed of acetate, Acrilan, nylon, Orlon, rayon and wool, according to the manufacturer. *For further information write the editors.*

New Fabric Adhesive

Raybestos-Manhattan, Inc. offers Ray-Bond Adhesive R-87001, described as a rubber base type adhesive for joining fabrics and other porous materials. The adhesive is said to have instantaneous grab, an important property when it is used in textile and garment plants for joining ends of ribbons, elastic bands and other fabrics without slowing production. It is reported to permit joining the ends of the material without overlapping. Resistant to water and diluted alkalis, the adhesive has a tensile strength (canvas to canvas) of 104 pounds per square inch after 10 minutes and 122 psi after 24 hours, according to the manufacturer. *For further information write the editors.*

New Procion Dyes

Four new Procion dyes have been announced by Arnold, Hoffman & Co., Inc. to augment the firm's line of dyestuffs which, when applied to cellulosics, are said to achieve high wet fastness by formation of a direct chemical linkage between dye and fiber. Procion Brilliant Blue R is described as a bright reddish shade of blue. The Brilliant Red H3B is reported to be a bright red possessing good wet and high light fastness.

Brilliant Yellow 6G is said to have similarly good fastness qualities, and can be readily applied by all the established processes, as pad-steam, pad-bicarbonate-dry, and cold batchwise methods.

Procion Brilliant Orange G produces fast, very bright yellowish orange shades, with bright pinks and scarlets resulting by admixture with Procion Brilliant Red 2B, according to the company. *For further information write the editors.*

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U.S. ACME
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Throwing Requirement
You name it—stretch yarns or bulk yarns, glass or metallic yarns, special process yarns, etc. . . . U. S. Textile is at your service with machines and know-how!
U. S. TEXTILE MACHINE COMPANY
SCRANTON 8, PENNA., U. S. A.
Designers and Builders of Profit-Producing MODERN THROWING EQUIPMENT for Silk and all Synthetic Yarns

U. S. MAN-MADE FIBER PRICES

This schedule lists the prices of yarns, staple and tow as reported by the producers in July, 1957. All prices are given as subject to change without notice.

RAYON FILAMENT YARN

American Bemberg

Current Prices

Regular Production Reel Spun Yarn

Den/Fil	No Twist Skeins	Twisted* Skeins & Cones	8½ Turns	High Twist Skeins & Cones 12 Turns	15 Turns	18 Turns
40/30	$1.49	$1.95	....	....	....	$2.08
50/36	1.24	1.50	....	....	....	1.72
65/45	1.14	1.30	....	$1.53	....	1.58
75/60**	1.04	1.18	....	1.41	$1.46	1.49
100/74**	.95	1.08	....	1.33	1.38	1.44
125/60	.94	1.05	$1.09	1.30	....	....
150/120	.93	1.02	1.12	1.27	....	....
300/225	....	.95	....	....	1.08	....

* Twist includes twists up to 6 turns on 40 and 50 denier, and up to 5 turns on heavier deniers.
** Spun Dyed Cupracolor Black 15¢ per lb. extra.

"44" HH Spool Spun Yarn

Den/Fil	No Twist Tubes	No Twist Beams	5 Turn Beams	5 Turn Cones	12 Turn Beams	12 Turn Cones	15 Turn Cones
40/30	$1.35	$1.35	....	....	....	....	....
50/36	1.00	1.00	....	....	....	....	....
65/45	1.05	....	....	....	....	$1.42	....
75/45*	.97	....	$1.08	$1.08	$1.31	1.31	$1.39
100/60*	.89	....	1.03	1.03	1.23	1.23	1.31
125/60	.84	....	.99	.99	....	....	....
150/90*	.77	....	.81	.81	1.15	1.15	1.24
150/120	.81	....	....	.93	....	....	....

* Available also in Spun Dyed Cupracolor Black at 15¢ per lb. extra.

Nub-Lite (Short Nubbi)

Code	Den/Fil	2½ Twist Skeins	2½ Twist Cones*	5 Twist Skeins	5 Twist Cones*
1515	150/90	....	....	$1.45	$1.35
1519**	150/90	....	....	1.45	1.35
2008	200/120	....	....	1.06	.96
2027***	200/120	....	....	1.06	.96
3002	300/180	$1.10	$1.00	....	....
4011	400/224	1.10	1.00	....	....
6001	600/360	1.08	.98	....	....
8001	860/450	1.08	.98	....	....

* Basic price for cones when dyed. Dyed Colors 30 and 35 cents above basic price. Prices based on 200 lb. dyed lots only. Prices for natural yarn on cones same as skein prices.
** Code 1515 can be run in warp or filling.
*** Code 2027—Softer than 2000.

CUPIONI Type B

Code	Den/Fil	No Twist Skeins	2½ Twist Cones	5 Twist Cones
9610	50/30	$1.39	....	$2.14
9650	70/45	1.29	$1.64	....
9660	100/60	....	1.48	....
1545	150/90	....	1.25	....
9720	200/120	....	1.20	....
9730	275/135	....	1.10	....
9792	450/225	....	1.10	....
9814	600/372	....	1.07	....
9847	900/372	....	.97	....

"Spun Dyed Cupracolor is spun 150, 275, and 900 deniers at 35¢ per pound extra. Cupracolor Black comes in all deniers."

Long Type A

Code	Den/Fil	2½ Twist Cones	5 Twist Cones
9690	150/135	$1.20	$1.25
9739	275/135	1.05	1.10
9781	450/372	1.05	1.10
9816	600/372	1.02	1.07
9827	900/372	.95	1.00
9877	1250/372	.95	1.00
9926	2500/744	.95	1.00

STRATA SLUB

Code	Den/Fil	Twist	Price
9697	150/135	3½	1.30
9747	275/225	3½	1.20
9798	450/372	2½	1.10
9823	600/372	2½	1.05
9847	950/372	2½	.97
9885	1250/372	1½	.95
9934	2500/744	1½	.95
9964	5000/1488	1½	.95

"Spun Dyed Cupracolor is spun in 600 and 950 deniers at 35¢ per pound extra."

FLAIKONA

Code	Den/Fil	Twist	Price
9769	300/224	3½	1.40
9807	600/405	2½	1.20
9840	950/450	2½	1.10

"Spun Dyed Cupracolor Black 35¢ per pound extra."

Terms: Net 30 days, F. O. B. shipping point. Minimum freight allowed to consignee's nearest freight station east of the Mississippi River. To points west of the Mississippi River minimum freight allowed to Memphis, Tennessee. Goods after shipment shall be at buyer's risk. Merchandise transported in seller's own trucks or those of its affiliates is sold F. O. B. delivery point.

American Enka Corp.

Current Prices
Effective December 4, 1956
Standard Quality Yarns

Standard Quality Rayon Yarns

A. Natural

Den./Fil.	Luster	Turns	Weaving Cones	Beams	Skeins Long	Skeins Short	Cakes	Knitting Cones
50/18	E	5 S						1.56
75/10	B	3 S&Z					1.08	
75/18	E	4 S						1.22
75/30	B	2.5,4S&Z	1.17	1.17			1.08	1.17
75/30	B	8 S	1.22			1.37		1.22
75/45	P,E	2.5, 4,5S&Z	1.17	1.17	1.23	1.37	1.08	1.17
75/60	B,P	3,4 Z	1.22				1.10	1.22
100/14	B,P	3 S&Z				1.12	.96	
100/40	B,E	12 S						1.27
100/40	B,P,E	4,5 S&Z					.96	1.04
100/40	B	6 S	1.10					
100/40,60	B,P	2.5,4S&Z	1.04	1.04	1.08	1.12	.96	1.04
100/60	E	2.5 S	1.06	1.06			.98	
125/40	E	3 Z						.96
150/40	B,P,E	2.1,3S&Z	.91	.91	.94	.99	.86	.90
150/40	B,E	5 S&Z	.91		.94	.99	.86	
150/40	B,E	8 S&Z	.97		1.00	1.05		
150/40	B,P	10 S&Z	1.03	1.03				
150/90	B,E	2.1 S&Z	.92	.92			.87	
200/40	P	3 Z						.82
200/40	B,P	8 S				.95		
250/60	P,E	2.4 Z						.75
300/50	B,E	3 S	.73	.73				
300/60,120	B,P,E	2.1 S&Z	.73	.73		.76	.71	.73
300/60	B	3.5 S	.73	.73		.76	.71	
300/60	B	4.3 S	.76	.76			.74	
300/60	B	7 S	.83					
300/40,120 H.T.	B	2.5, 3,4S	.75	.75				
450/80	B	3 S	.70	.70		.72	.68	
600/80,120	B,E	3 S	.69	.69			.67	
900/120	B	3.4 S	.68				.66	
900/120 H.T.	B	3.6 S	.70				.68	

"Jetspun" Colored Yarns

Den./Fil.	Tenacity	Turns	Weaving Cones	Beams*	Cakes	Colors
100/40	Regular	2.5S	1.39	1.39		All
150/40	Regular	2.1S	1.26	1.26		All
200/40	Regular	8.3S	1.27			All
450/80	Regular	3.0S	1.05			All
300/40	High	3.4S	1.10	1.10		All
600/80	High	3.4S	1.06			All
900/120	High	3.4S	1.05	1.05		All

Registered trade mark of American Enka solution dyed rayon yarn.
* Single color.

American Viscose Corp.

Effective December 14, 1956

Graded Yarns

Denier	Filament	Type	Short Skeins	Long Skeins	All Cones Beams Tubes	Cakes
50	20	Bright & Dull	$	$1.59	$1.56	$1.45
60	10	Bright	....	....	1.41	1.30
75	10-30	Bright	1.24	1.20	1.17	1.08
75	30	Dull	....	....	1.17	1.08
100	14-40	Bright	1.12	1.07	1.04	.96
100	60	Dull	....	....	1.06	.98
150	24-40-60	Bright & Semi-Dull	.99	.94	.91	.86
150	40	Dull	....	....	.91	.86
150	90	Dull	....	....	.92	.87
200	10-44	Bright	.90	.85	.82	.78
250	60	Semi-Dull & Dull	.82	.78	.75	.73
300	44	Bright & Dull	.79	.76	.73	.71
300	234	Dull	....	....	.75	.73
450	100	Bright	....	.72	.70	.68
600	100	Bright	....	.71	.69	.67
900	60-100-150	Bright	....	.70	.68	.66
1200	75	Bright	....	.67	.65	....
2700	150	Bright	....	.70	.68	....

Extra Turns Per Inch

75	30	Bright 6-Turns	$1.36	$1.32	$1.29	$ ....
100	40	Bright 6-Turns	1.24	1.19	1.16	1.08
150	40	Bright 6-Turns	1.09	1.04	1.01	.96
300	15	Bright 5-Turns	....	....	.78	....
300	44	Bright 6-Turns	....	.86	.83	.81
600	30	Bright 5-Turns	....	.76	.74	.72

Rayflex Yarns

150	60	Rayflex	$	$	$ .94	$ .89
200	75	Rayflex	....	....	.85	.81
300	120	Rayflex	....	....	.75	.73
450	120	Rayflex	....	....	.72	.70
600	234	Rayflex	....	....	.71	.69
900	350	Rayflex	....	.72	.70	.68

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DACRON
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COMPLETE PACKAGE SERVICE on dyed and thrown filament yarns, delivered on tubes, cones or in the cake.

Spun and Worsted Yarns

Dyers & throwsters of modern yarns since 1922

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SALES REPRESENTATIVES

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Textile News Briefs

New Avisco Technical Dep't

Formation of a Technical and Textile Service Department by American Viscose Corp. has been announced. The new unit represents the merger of the Textile Research Department and the corporation's Technical Department. Karl M. Currier is the new department's director, and Dr. Charles J. Geyer, Jr., is assistant director. Purpose of the new department is to provide, in one organization unit, technical assistance of a staff nature to both the manufacturing and the sales activities of the operating divisions.

Visitors at S&W Plant

Fifteen foreign representatives and customers of Scott & Williams, Inc. recently toured the firm's plant in Laconia, N. H. The visitors first attended the Knitting Arts Exhibition in Atlantic City during the week of April 29-May 3. They evinced so much interest in the S&W exhibit, which included 14 hosiery machines and eight underwear and body machines manufactured by the Brinton Fabrics Machine Division, that they were invited to make a tour of the Laconia plant. The visitors were shown the full line of Scott & Williams machinery and equipment.

New Hartford Office

Hartford Rayon Co. has moved its sales office at Greensboro, N. C., to 430 W. Peachtree St., N.W., Atlanta 8, Ga. Thomas L. Leslie, Jr., southern district sales manager, is in charge of the Atlanta office. Wesley L. Prince, Jr., administrative assistant for sales, will function in New York as liaison between Hartford's plant at Rocky Hill, Conn., and the Atlanta office.

Interchemical's N. E. Office

The New England headquarters of Interchemical Corp., Textile Colors Division, is now located in a new plant at 201 Armistice Blvd., Pawtucket, R. I. The Company, which produces Aridye and Aquaprint pigment colors and Interchem dyes, designed its new office-laboratory-warehouse building specifically to provide increased facilities for serving needs of textile printers and dyers in the New England area. The division's main office and factory is located at Hawthorne, N. J., with a branch at Rock Hill, S. C.

(Continued on Page 67)

JACOBS

ONLY THE "Verybest" IS GOOD ENOUGH

Jake Jacobs says—
"Jacobs NYLON Casteel Dobby Cords outlast all other Cords 3 to 1. Give them a trial."

THE BULLARD CLARK COMPANY

JACOBS

SOUTHERN DIVISION
Charlotte, N. C.

NORTHERN DIVISION
Danielson, Conn.

Thick and Thin Yarns

150	40-90	Bright & Dull	$	$	$1.15	$ ....
200	75	Bright & Dull	....	....	1.05	....
300	120	Bright & Dull	....	....	.95	....
450	100	Bright & Dull	....	....	.92	....
490	120	Bright & Dull	....	....	.95	....
900	350	Dull	....	....	1.00	....
920	120	Bright & Dull	....	....	1.00	....

Colorspun Yarns

Currently producing regular and high tenacity at premiums at $.35 per pound.

Viscose Filament Yarns

The following material deposit charges are required:

Metal Section Beams	$170.00 each
Wooden Section Beams	55.00 each
Wooden Section Beam Crates	30.00 each
Metal Section Beam Racks	75.00 each
Metal Tricot Spools—14" flange	30.00 each
21" flange	60.00 each
32" flange	150.00 each
Metal Tricot Spool Racks—14" flange	135.00 each
21" flange	100.00 each
32" flange	75.00 each
Wooden Tricot Spool Crates	20.00 each
Cloth Cake Covers	.05 each

Same to be credited upon return in good condition—freight collect.
Terms: Net 30 days.

Celanese Corp. of America

Current Prices
Effective December 14, 1956

Den.	Fil.	Twist		Beams	Cones	Cakes	Non Shrunk Tubes
#49 and #14 Production							
75/30/3	Bright			....	$1.11	$1.03	....
100/40/2Z	"			$.96	....	....	....
100/40/3	"			.98	.96	.91	....
100/40/5	"			....	1.02	.97	....
100/60/3	"			....	.97	.92	....
125/40/2Z	"			.94	.92	....	....
150/40/3	"			.89	.85	.80	....
150/40/2Z	"			.87	....	....	....
150/40/5	"			....	.91	.86	....
150/40/8	"			....	.97	.92	....
150/40/0	"	NS		....	.71	....	....
300/50/3	"			.72	.71	.69	....
300/50/0	"	NS		....	.63	....	....
#20 Production							
150/40/3	Bright			.87	.83	.78	....
150/40/0	"	NS		....	.71	....	....
150/40/2Z	"			.87	....	....	....
300/50/3	"			.72	.71	.69	....
300/50/0	"	NS		....	.63	....	....
#20 Production							
100/40/3	Dull			....	.98	.91	....
100/60/2Z	"			1.00	....	....	....
100/60/0	"			....	.93	....	....
100/60/5	"			1.04	1.02	.97	....
150/40/3	"			.87	.83	.78	$.77
150/40/0	"	NS		....	.71	....	....
150/90/3	"			....	.90	.85	....
250/60/0	"	NS		....	.67	....	....
250/60/3	"			....	.75	....	.70
#52 Thick & Thin Rayon							
150/60/3	Bright			....	1.15	....	....
450/120/3	"			....	.89	....	....

Terms: Net 30 days. Prices per pound F.O.B. shipping point, lowest transportation allowed to destination in U.S.A. east of the Mississippi River.
Prices subject to change without notice.
All previous prices withdrawn.
Note: Prices on unlisted items can be obtained upon request.

E. I. du Pont de Nemours & Co.

Textile Fibers Dept.
Current Prices
Effective with orders December 7, 1956

Bright and Dull

Den.	Fil.	Turns/ Inch Up to		(A) Cones, Beams, Tubes	Skeins	Cakes
40	20	3	Textile "Cordura"*	$1.90	$1.90	$1.85
50	20	3		1.63	1.63	
50	20	3	Textile "Cordura"	1.65	1.65	1.60
50	35	3	Textile "Cordura"	1.70	1.70	1.65
75	10	3		1.17	1.20	1.08
75	15	3		1.17	1.20	1.08
75	30	3		1.17	1.20	1.08
100	15	3		1.04	1.07	.96
100	40	3		1.04	1.07	.96
100	60	3	Bright	1.04	1.07	.96
100	60	3	Dull	1.06	1.09	.98
125	50	3		.96	.98	.90
150	40	3		.91	.92	.86
150	60	3		.91		
150	60	3	Textile "Cordura"	.92	.93	.87
150	90	3	Dull	.92	.93	.87
150	100	3	Dull	.92	.93	.87
200	35	3		.82	.84	.78
200	20	3		.82		
300	50	3.5		.73	.76	.71
300	120	3	Textile "Cordura"	.74	.77	.72
450	72	3		.70	.72	.68
600	96	3		.69	.71	.67
600	240	3	Textile "Cordura"	.70	.72	.68
900	50	3		.68	.70	.66
900	144	3		.68	.70	.66
1165	480	3	Textile "Cordura"	.68	.68	.65
1800	100	3		.68		
2700	150	3		.68	.70	
5400	300	3		.75		

Thick and Thin

100	40	3	#7	1.38		1.38
150	90	3	#7	1.15	1.16	1.15
200	80	3	#7	1.05	1.06	1.05
450	100	3	#7	.89	.90	.89
1100	240	3	#50	1.32		1.32
2200	480	3	#50	1.14		1.14

(A) 2¢/lb. additional for cones less than 3# and tubes less than 2#.
Terms: Net 30 days.
Domestic Freight Terms are F.O.B. shipping point, freight prepaid our route to points east of the Mississippi River within the continental limits of the United States, for points west of the Mississippi River freight allowed to the Mississippi River crossing nearest purchaser's mill if shipped overland, or port of exit of purchaser's choice east of Mississippi River.
* "CORDURA" and "SUPER CORDURA" are DuPont's registered trade-marks for its high tenacity rayon yarn.

Industrial Rayon Corp.

Effective December 21, 1956

Denier	Filament	Turns per In.	Type	2.8 Lb Cones	4.4 Lb Cones	Beams	2.2 Lb Tubes	4.4 Lb Tubes
100	40	2.5 "S"	Bright	1.04		1.04		
150	40	2.5 "S"	Bright	.91		.91		
150	40	2.5 "S"	Luster #4	.91		.91		
150	40	2.5 "S"	Bright intermediate strength	.92				
200	20	2.5 "S"	Bright	.82				
200	40	2.5 "S"	Bright	.82				
300	44	2.5 "S"	Bright	.73		.73		
300	80	2.5 "S"	Bright	.73		.73		
300	80	2.5 "S"	Luster #4	.73		.73		
300	80	2.5 "S"	Bright extra strong	.75		.75		
450	60	2.0 "S"	Bright		.70	.70		
600	90	1.5 "S"	Bright		.69	.69	.69	.69
900	50	2.0 "S"	Bright		.68	.68	.68	.68
900	150	1.5 "S"	Bright		.68	.68	.68	.68

Luster #4 is semi-dull.
Terms: Net 30 days f.o.b. point of shipment; title to pass to buyer on delivery of goods to carrier. Domestic transportation charges prepaid with transportation allowed at lowest published rate to all points east of the Mississippi River. PRICES ARE SUBJECT TO CHANGE WITHOUT NOTICE.

North American Rayon Corp.

Current Prices

First Quality Yarns	Den/Fil	Twist	Knitting* Cones	Cones: No Twist Knitting Cones	Cones: Beams, Tubes** and Weaving Cones	Untreated Cakes
	75/30	3.5			$1.17	$1.08
	75/30	7			1.30	
	75/30	15			1.37	
Normal	75/30	20			1.40	
Strength Yarns	100/40/60 Brt.	3.5			1.04	.96
NARCO	100/40/60	12			1.22	
	125/52/60	3			.96	.90
	125/52	10			1.13	
	150/42/60/75	3	$.90		.91	.86
	150/42	0		$.71		
	300/75	3	.73		.73	
	300/75	0		.63		
	600/98	3	.69		.69	
	900/46	2.5	.68		.68	
	1800/92	2.5	.68		.68	
Semi-High Strength Yarns Hi-NARCO	300/75	3			.74	

* Oiled Cones $.01 Per Pound extra for Graded Yarns only.
** 1 lb. tubes $.02 Per Pound extra for Graded Yarns only.
Terms: Net 30 days, F.O.B. shipping point, minimum freight allowed to consignee's nearest freight station east of the Mississippi River. To points west of the Mississippi River minimum freight to Memphis, Tennessee allowed. Goods after shipment shall be at buyer's risk. Merchandise transported in seller's own trucks or those of its affiliates is sold F.O.B. delivery point.
Prices subject to change without notice.

RAYON HIGH TENACITY YARN and FABRIC

American Enka Corp.

Effective November 1, 1956

Tempra (High Tenacity)

Denier	Elongation	Beams & Cones
1100/480	Low	.59
1230/480	High	.59
1650/720	Low	.55
1820/720	High	.55
2200/960	High & Low	.55

Suprenka (Extra High Tenacity)

1650/720	Low	.58
1900/720	High	.58
2200/960	Low	.57

* Beams Only.
Terms: Net 30 days, f.o.b. Enka, North Carolina, or Lowland Tennessee; minimum freight allowed to first destination east of the Mississippi River.

Roxbury Carpet Expands

A $2,000,000 expansion and modernization program is under way at two plants of the Roxbury Carpet Co., according to A. J. de Gozzaldi. Remodeling work at the firm's Worcester, Mass., plant has begun and a contract for a new addition to the Saxonville, Mass., plant has been awarded.

The program includes building a new card room and enlargement of the spinning department at Saxonville; the removal of outdated buildings at Worcester, and the installation of new machinery. When the program is completed it will permit both Saxonville and Whittall divisions to run at full capacity from yarn produced at Saxonville.

New Kidde Office

Kidde Manufacturing Co., producer of machinery for the textile industry, has opened a new sales office in the Johnston Bldg., Charlotte, N. C.

Bobbin Prices Reduced

Prices of bobbins manufactured by American Paper Tube Co. have been "substantially reduced" according to an announcement by Robert J. Guerin, president. The reductions apply to both the company's metal-tip and "Plastiweld" bobbins. Guerin stated that the company's metal-tip warp bobbins are selling today at "1947 prices", while the "Plastiweld" bobbins are "now at the lowest prices in our history". American has sales offices in Woonsocket, R. I., and Greenville, S. C.

Personnel Changes

Caroline Boyer has been named head of the product information service of the Public Relations Department at American Viscose Corp. Miss Boyer's headquarters will be in Philadelphia.

F. T. Hopkins

Frederick T. Hopkins has been named sales manager of industrial yarns and fabrics for the Textile Division, United States Rubber Co. He succeeds Albert W. Hansen, who has retired.

Royal P. Tuthill has joined the yarn sales section of the Textile Division, United States Rubber Co., as supervisor of product development and technical services for tufting, chenille and floor covering yarns. **John J. Dacey, Jr.**, has been named to the company's newly-created post of sales promotion manager of the Textile Division.

Arthur F. McLean has joined Bradford Dyeing Association (USA), Bradford, R. I., as plant manager.

W. R. Cooke has been appointed manager of the Barbour Mill of The Linen Thread Co., Inc., Paterson, N. J.

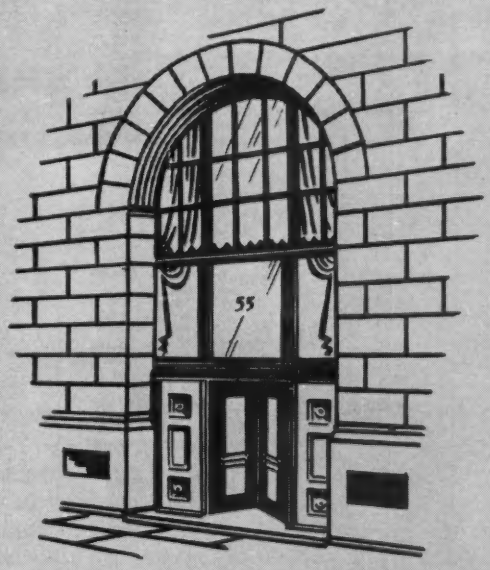
Benjamin R. Ebersman, president of Hemphill Co., Pawtucket, R. I., before its acquisition by the Draper Corp., has resigned from active participation in the company's affairs.

D. L. Friday has resigned as southern sales manager for Kidde Manufacturing Co., Inc., to organize the Friday Textile Machine and Supply Co. in Gastonia, N. C.

Joseph Jervis, Jr., has been appointed plant manager of Bristol Mills, yarn-making operation at Bristol, Va., of Bigelow-Sanford Carpet Co.

Our service is tailored to provide all the working capital any qualified client needs, without increased borrowing, diluting profits or interfering with management.

Information available for any manufacturer or distributor with $500,000 or more annual sales.



Textile Banking Company

55 Madison Avenue, New York 10, N.Y.

Providing operational financing for the apparel, electronics, furniture, leather, plastics and textile industries.

Subsidiaries:

T. B. C. Associates, Inc., New York Southwest Texbanc, Inc., St. Louis

American Viscose Corp.

Effective November 1, 1956
Revised June 10, 1957

Super Rayflex

Denier	Filament	Twist	Beams	Cones
1100	490	0	$.63	$.63
1100	490	4.1Z	.63	....
1650	980	0	.58	.58
1650	980	4.1Z	.58	....
2200	980	0	.57	.57

Tire Yarn

1100	490	2.7Z	.59	....
1650	980	0	.55	.55
1650	980	3.6Z-4.1Z	.55	....
2200	980	0	.54	.54

High Strength

1150	490	3.1Z	.59	.59
1230	490	3.1Z	.59	.59
1650	980	4Z	.55	.55
1875	980	4Z	.55	.55

Super Rayflex, Tire Yarn and High Strength yarns are sold "Not Guaranteed for Dyeing."

Tire Fabric

	Tire Yarn	Super Rayflex
1100/490/2	$.69	$.73
2200/980/2	.625	.655

Above prices based on 80% minimum Carcass, 15% maximum Top Ply, 5% maximum Breaker.

1650/980/2

* Production Factor

525	Open	Carcass	$.635	$.665
300	490	Top Ply	.645	.675
115	275**	Breaker	.67	.70

* Determined by dividing total ends by picks.

** Orders limited to 5% of total 1650 Fabric booked for any given period.

The following deposit charges are made on invoices:

Beams	$55.00 each
Crates (Metal)	75.00 each
Fabric Shell Rolls	3.50 each

Same to be credited upon return in good condition—freight collect
Terms: Net 30 days.

Celanese Corporation of America

Effective December 27, 1956
Supersedes September 12, 1955

Fortisan Yarn Prices

Denier	Packages	Natural	Black
30/2.5/40	2 lb. Cones	$3.00 lb.	$3.35 lb.
60/2.5/80	4 " "	2.40 "	2.75 "
90/2.5/120	4 " "	2.25 "	2.60 "
120/2.5/160	4 " "	2.05 "	2.40 "
150/2.5/180	4 " "	1.95 "	2.30 "
270/2.5/360	4 " "	1.85 "	2.20 "
300/2.5/360	4 " "	1.85 "	2.20 "
60/2.5/80 Olive Green—Spun Dyed—OG106		4 lb. Cones	3.50 lb.

Terms: Net 30 days. Prices per pound F.O.B. shipping point, lowest transportation allowed to destination in U. S. A. east of the Mississippi River.
Prices subject to change without notice.
All previous prices withdrawn.
Note: Prices on unlisted items can be obtained upon request.

Fortisan-36 Rayon Yarn
Bright

Denier and Filament	Twist	4# cones	8# cones	Tubes	Beams
270/280	0.8Z	$2.30			
300/280	0.8Z	$2.05			
400/400	0.8Z	$1.75			$1.70
400/400	0			$1.75	
800/800	0.8Z	$1.25	$1.25		$1.20
800/800	0			$1.25	
1600/1600	0.8Z	$1.15	$1.15		$1.10
1600/1600	0			$1.15	

Terms: Net 30 days. Shipments prepaid to any destination in U. S. A. East of the Mississippi River. Shipments West of the Mississippi will be made on a collect freight basis and allowance will be made for the lowest transportation cost to the point of river crossing.
Prices subject to change without notice.
All previous prices withdrawn.
Note: Prices on unlisted items can be obtained upon request.

E. I. du Pont de Nemours & Co.

Textile Fibers Dept.
Current Prices
Effective with shipments April 17, 1957

"Super Cordura"*

(all packages)

1100	480	2	$.63
1250	480	2	.63
1650	720	2	.58
1900	720	2	.58
2200	960	2	.57
2450	960	2	.57

Terms: Net 30 days.
Domestic Freight Terms are F.O.B. shipping point, freight prepaid our route to points east of the Mississippi River within the continental limits of the United States, for points west of the Mississippi River freight allowed to the Mississippi River crossing nearest purchaser's mill if shipped overland, or port of exit of purchaser's choice east of Mississippi River.
* "CORDURA" and "SUPER CORDURA" are DuPont's registered trade-marks for its high tenacity rayon yarn.

Industrial Rayon Corp.

Effective November 1, 1956

Unbleached Bright High Tenacity Yarns

SINGLE END BEAMS AND CONES:

Den.	Fil.	Turns Per In.	4.4 Lb. Cones	Beams	2.2 Lb. Tubes	4.4 Lb. Tubes
1100	480	1.5 "Z"	.59	.59	.59	.59
1650	720	1.5 "Z"	.55		.55	.55
2200	1000	1.5 "Z"	.54	.54	.54	.54
3300	1440	1.5 "Z"	.54	.54	.54	.54
4400	2000	1.5 "Z"	.54	.54	.54	.54

"Above Prices apply to Type 100. Type 200 Tyron Prices are 3¢ more."
Terms: Net 30 days f.o.b. point of shipment; title to pass to buyer on delivery of goods to carrier. Domestic transportation charges allowed at lowest published rate to all points east of the Mississippi River.
Prices are subject to change without notice.

North American Rayon Corp.

High-Strength Yarns—SUPER-NARCO

		Twist	Cones	Beams
1650	720	3Z		$.55
1850	720	3Z	$.55	
Super High Strength Yarns—				
1650	720	1.5Z	.58	.58

Terms: Net 30 days, f.o.b. shipping point. Minimum freight allowed to consignee's nearest freight station East of the Mississippi River. To points West of the Mississippi River minimum freight to Memphis, Tenn. allowed. Goods after shipment shall be at buyer's risk. Merchandise transported in seller's own trucks or those of its affiliates if sold f.o.b delivery point.

ACETATE FILAMENT YARN

American Viscose Corp.

Current Prices
Effective December 21, 1956

Bright and Dull

* Intermediate Twist

Denier & Filaments	Cones & 4-6 Lb. Tubes	Twister Tubes	Warps	Spinning Cones	Twist Warps
55/14	$1.04	$1.02	$1.05	$.98	$.99
75/20	1.00	.98	1.01	.94	.95
100/28	.95	.93	.96	.89	.90
120/32	.86	.84	.87	.80	.81
150/41	.77	.76	.78	.72	.73
200/54	.73	.72	.74	.69	.70
300/80	.69	.68	.70	.65	.66

* Standard Twist 2¢ additional.
Terms: net 30 days.

Celanese Corp. of America

Current Prices
Effective December 20, 1956

Bright and Dull

Denier and Filaments	Intermediate Twist 4 & 6-Lb Cones	Beams	4 & 6-TM Tubes	4-Pound Cheeses	Spinning Twist Cones	Beams	O Twist Tubes
45/13	$1.17	$1.18	$....	$....	$....	$1.12	$....
55/15	1.04	1.05	....	....	.98	.99	.925
75/20	1.00	1.01	.98	....	.94	.95	.84
75/50	1.02	1.03	1.00	....	....	....	.89
100/26-40	.95	.96	.93	....	.89	.90	.81
120/40	.86	.87	.85	....	.80	.81	....
150/40	.77	.78	.77	.77	.72	.73	.69
200/52	.73	.74	.73	....	.69	.70	....
300/80	.69	.70	.69	....	.65	.66	.63
450/120	.67	.68	.67	....	.63	.64	....
600/160	.65	.66	.65	....	....	....	....
900/80-240	.63	.64	.63	....	....	....	.61

150 Denier 12-TM Tubes ..... .76
55/0/15 Dull Tricot Beams ..... .985
2-Pound Cheeses ..... .01 Less Than 4-Pound Cheeses
2-BU and 4-Bu Tubes ..... Same Price as 4 and 6-Lb. Cones
2-Lb. Twist Tubes ..... .01 Less Than 4 & 6-Lb. Twist Tubes on 120, 200 and 300 Denier Intermediate Twist

Terms: Net 30 days. Prices per pound F.O.B. shipping point, lowest transportation allowed to destination in U.S.A. east of the Mississippi River.
Prices subject to change without notice.
All previous prices withdrawn.
Note: Prices on unlisted items can be obtained upon request.

Celaperm Filament Yarn Prices

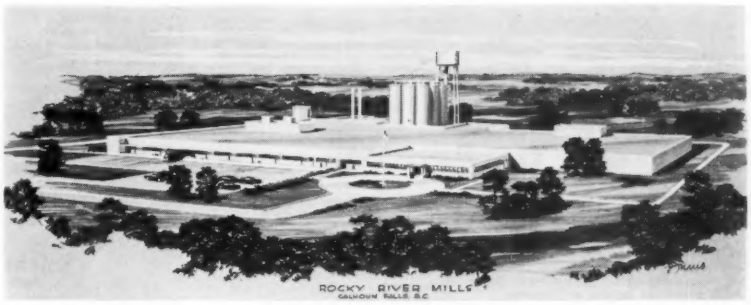
Denier and Filaments	Intermediate Twist 4 & 6-Lb. Cones	Beams	Spinning Twist Cones	Beams
55/15	$1.37	$1.38	$1.31	$1.32
75/20	1.34	1.35	1.28	1.29
100/26	1.28	1.29	1.22	1.23
120/40	1.19	1.20	1.13	1.14
150/40	1.11	1.12	1.06	1.07
200/52	1.05	1.06	1.01	1.02
300/80	1.01	1.02	.97	.98
450/120	.99	1.00	.95	.96
600/160	.97	.98	....	....
900/80	.94	....	....	....

3 to 5 Turns on Cones or Beams — $.02 Additional

Effective March 11, 1955

Bigelow-Sanford Plant

Construction of a new carpet wool preparation and yarn-making plant for the Bigelow-Sanford Carpet Co., Inc. near Calhoun Falls, S. C., is nearing completion. Manufacturing at the plant, which has an independent water supply and effluent disposal system, is scheduled to start August 1. The office and manufacturing departments are air-conditioned. Architect-engineers for the project are Lockwood Greene Engineers, New York City.



New Bigelow-Sanford plant.

Roy H. Niebling

Roy H. Niebling has been elected executive vice president of Sidney Blumenthal & Co., Inc. He will act as liaison between the mill and manufacturers, and will be in New York City each week Friday through Monday.

Robert V. Lee has been appointed district sales manager of the West Point Foundry & Machine Co., West Point, Ga.

John P. Chubet has been named executive vice president of Hightstown Rug Co., Hightstown, N. J.

Daniel D. Powderly has been appointed identification manager of the Textile Division, Celanese Corp. of America, with responsibility for expanding Celanese's program of labeling apparel and home furnishings. **Jane Moss Driscoll** was named advertising assistant in the textile advertising department.

Robert A. Helvig has been named manager of the reflective products plant of the Minnesota Mining and Manufacturing Co. at Hastings, Minn.

R. E. Cornwell has been appointed president of Union Carbide Development Co., division of Union Carbide Corp.

Edward J. Allard has been named resident manager for New England and **Michael E. Keane** as assistant resident manager in the Boston sales branch of National Aniline Division, Allied Chemical & Dye Corp. **A. E. Sampson,** Boston resident manager, has retired.

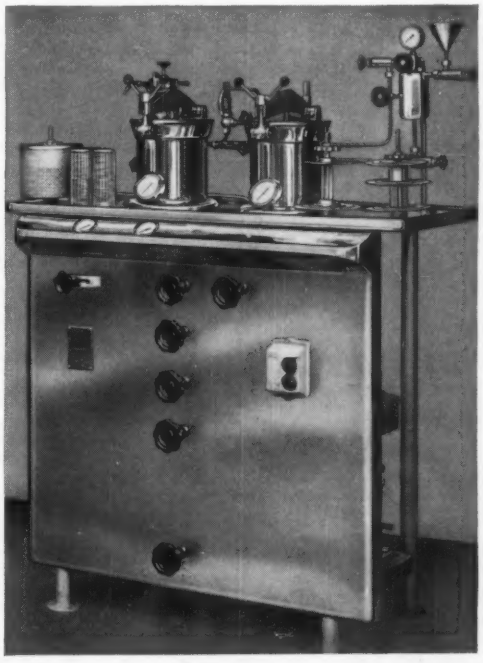
Deaths

Irving W. Reynolds, vice president of The Foxboro Co., died of a heart attack recently. He was 77.

Pre-Test Your Dyeing Formulas & Techniques

with a SCHOLL

High-Temperature Laboratory Dyeing Machine



With SCHOLL Laboratory Dyeing Machines you can carry out versatile and dependable dye-testing on any textile fiber in any form. Exactly proportioned to production machines, they enable you to avoid changes or corrections once full-scale dyeing is begun. You can add dyestuffs and chemicals, or remove samples at any time, without interrupting the cycle. Dyeing can begin above or below the boiling point—and be carried on with or without pressure. The overflow and reserve tank lets you prepare a new bath while continuing to dye in the main pressure kier. Construction is entirely of acid-resistant stainless steel.

SCHOLL also makes High-Temperature Pressure Dyeing Machines with 11 to 1100 Lb. capacity, High-Temperature Skein Dyeing Machines up to 440 Lb. capacity, and all types of carriers.

Write for more information

COSA TEXTILE DIVISION

Lay-on-air & Tenter Dryers, Padders & Other Finishing Mach. · Spindles · Roller Bearing Inserts · Automatic Moisture Control & Others

COSA CORPORATION, 405 LEXINGTON AVENUE, NEW YORK 17, N. Y.

Celaperm Black Yarn Prices

Denier and Filaments	Intermediate Twist 4 & 6-Lb. Cones	Intermediate Twist 4 & 6-Lb. Beams	Spinning Twist Cones	Spinning Twist Beams
55/15	$1.17	$1.18	$1.11	$1.12
75/20	1.14	1.15	1.08	1.09
100/26	1.08	1.09	1.02	1.03
120/40	.99	1.00	.93	.94
150/40	.91	.92	.86	.87
200/52	.85	.86	.81	.82
300/80	.81	.82	.77	.78
450/120	.79	.80	.75	.76
600/160	.77	.78	....	....
900/80	.74		....	....

3 to 5 Turns on Cones or Beams — $.02 Additional

Terms: Net 30 days. Prices per pound F.O.B. shipping point, lowest transportation allowed to destination in U.S.A. east of the Mississippi River.

Prices subject to change without notice.

All previous prices withdrawn.

Note: Prices on unlisted items can be obtained upon request.

E. I. du Pont de Nemours & Co.

Textile Fibers Dept.

Current Prices

Acetate

Denier & Filament	Zero Twist Tubes	Zero Twist Beams	Low Twist Cones	Low Twist Beams	Intermediate Twist 2 & 4 Lb. ⅝" Tbs.	Intermediate Twist 4 & 6 Lb. Tw. Tbs.	Intermediate Twist Cones	Intermediate Twist Bms.
45-13	$1.03	$1.11	$1.11	$1.12			$1.17	$1.18
45-24	1.03	1.11		1.12			1.17	1.18
55-18	.925	.985		.99			1.04	1.05
55-24	.925	.985		.99			1.04	1.05
75-8	.94							
75-24	.84	.94	.94	.95		$.98	1.00	1.01
75-50				.97		1.00	1.02	1.03
100-11	.90		.98				1.04	
100-24	.81		.89	.90		.93	.95	.96
100-32	.81		.89	.90		.93	.95	.96
100-66	.83					.95	.97	.98
120-40	.77	.80	.80	.81		.85	.86	.87
120-50	.77	.80	.80	.81		.85	.86	.87
150-16	.72				$.81	.81	.81	.82
150-40	.69	.72	.72	.73	.77	.77	.77	.78
200-60	.68		.69	.70	.73	.73	.73	.74
240-80			.67				.71	
300-40	.63						.69	.70
300-80	.63	.65	.65	.66	.69	.69	.69	.70
450-120	.63		.63	.64	.67	.67	.67	.68
600-80							.65	
600-160			.62	.63	.65	.65	.65	.66
900-44	.61		.62	.63	.63	.63	.63	.64
900-70	.61		.62	.63	.63	.63	.63	.64
900-240			.62	.63	.63	.63	.63	.64
1800-88			.60	.61	.61	.61	.61	.62
1800-140			.60	.61	.61	.61	.61	.62
2700-132			.60	.61	.61	.61	.61	.62
2700-210			.60	.61	.61	.61	.61	.62
3000-210					.61	.61	.61	.62

(A) Regular Twist (2.9 thru 5 T.P.I.)—add $.02 to Intermediate Twist Price.

(B) 1 lb. ⅝" Tubes—add $.02 to 2 & 4 lb. ⅝" Tube Price.

(C) 2 lb. Twisted Tubes are the same as 4 & 6 lb. tubes except on 150, 200 and 300 denier Intermediate Twist where the price is $.01 less.

Color-Sealed

Denier & Filament	Zero Twist Tubes	Zero Twist Beams	Low Twist Cones	Low Twist Beams	Intermediate Twist Twisted Tubes 2 Lb.	Intermediate Twist Twisted Tubes 4 & 6 Lb.	Intermediate Twist Cones	Intermediate Twist Beams
55-18	$1.245	$1.315		$1.32	$1.35	$1.35	$1.37	$1.38
75-24	1.18	1.28	$1.28	1.29	1.32	1.32	1.34	1.35
100-32	1.14		1.22	1.23	1.26	1.26	1.28	1.29
150-40	1.03	1.06	1.06	1.07	1.10	1.11	1.11	1.12
200-60	1.00		1.01	1.02	1.04	1.05	1.05	1.06
300-80	.95	.97	.97	.98	1.00	1.01	1.01	1.02

(A) Regular Twist—Add $.02 to Intermediate Twist Price.

Black

Denier & Filament	Zero Twist Tubes	Zero Twist Beams	Low Twist Cones	Low Twist Beams	Intermediate Twist 2 & 4 Lb. ⅝" Tbs.	Intermediate Twist 4 & 6 Lb. Tw. Tbs.	Intermediate Twist Cones	Intermediate Twist Beams
55-18	$1.045	$1.115		$1.12		$1.15	$1.17	$1.18
75-24	.98	1.08	$1.08	1.09		1.12	1.14	1.15
100-32	.94		1.02	1.03		1.06	1.08	1.09
150-40	.83	.86	.86	.87		.91	.91	.92
200-60	.80		.81	.82		.85	.85	.86
300-40	.75	.77	.77	.78	$.81	.81	.81	.82
300-80	.75	.77	.77	.78	.81	.81	.81	.82
450-120			.75	.76	.79	.79	.79	.80
600-160			.73	.74	.77	.77	.77	.78
900-44	.72		.73	.74	.74	.74	.74	.75
900-70	.72		.73	.74	.74	.74	.74	.75
900-240			.73	.74	.74	.74	.74	.75

(A) Regular Twist (2.9 thru 5 T.P.I.)—add $.02 to Int. Twist Price.

(B) 1 lb. ⅝" Tubes—add $.02 to 2 & 4 lb. ⅝" Tube Price.

(C) 2 lb. Twisted Tubes are the same as 4 & 6 lb. Twisted Tubes except on 150, 200 and 300 denier Intermediate Twists where the price is $.01 less.

Specialty Yarns

Type 20	Same Price as Regular Yarn
Type C	Same Price as Regular Yarn
Type C—Thick & Thin 100-22	Int. Twist 4 lb. Cones $1.39

Denier & Filament	Natural Cones	Natural Beams	Black Cones	Black Beams	Color-Sealed Cones	Color-Sealed Beams
200-64 Int. Twist	1.05		$1.15		$1.35	
200-64 Reg. Twist	1.08	$1.09	1.17	$1.21		
300-80 Int. Twist	1.00					

Terms: Net 30 days. Subject to change without notice.

Domestic Freight Terms are F.O.B. shipping point, freight prepaid our route to points east of the Mississippi River within the continental limits of the United States, for points west of the Mississippi River freight allowed to the Mississippi River crossing nearest purchaser's mill if shipped overland, or port of exit of purchaser's choice east of Mississippi River.

Eastman Chemical Products, Inc.

Tennessee Eastman Co.

Effective December 21, 1956

"Estron"* Yarn, Bright or Dull — White

Denier & Filament	Regular Twist Cones	Intermediate Twist Cones	Intermediate Twist Tubes	Intermediate Twist Beams	Low Twist Cones	Low Twist Beams	Zero Twist Tubes	Tricot Beams Spun Twist	Tricot Beams Zero Twist
55/13	$1.06	$1.04	$1.02	$1.05	$.98	$.99	$.92½	$.99	$.98½
75/19	1.02	1.00	.98	1.01	.94	.95	.84	.95	....
75/49	1.04	1.02	....	1.03	....	....	....	....	....
100/25	.97	.95	.93	.96	.89	.90	.81	....	....
120/30	.88	.86	.84	.87	.80	.81	....	....	....
150/38	.79	.77	....	.78	.72	.73	.69	....	....
200/50	.75	.73	....	.74	.69	.70	....	....	....
300/75	.71	.69	....	.70	.65	.66	.63	....	....
450/114	.69	.67	....	.68	.63	.64	....	....	....
600/156	.67	.65	....	.66	.62	.63	.63	....	....
900/230	.65	.63	....	.64	....	....	.61	....	....
Heavier	....	....	....	....	....	....	.56	....	....

Current Prices—December 19, 1955

"Chromspun"*—Standard Colors (Except Black)

Denier & Filament	Regular Twist Cones	Regular Twist Beams	Intermediate Twist Cones	Intermediate Twist Beams	Low Twist Cones	Low Twist Beams
55/13	$1.39	$1.40	$1.37	$1.38	$1.31	$1.32
75/19	1.36	1.37	1.34	1.35	1.28	1.29
100/25	1.30	1.31	1.28	1.29	1.22	1.23
150/38	....	....	1.11	1.12	1.06	1.07
300/75	....	....	1.01	1.02	.97	.98
450/114	....	....	.99	1.00	.95	.96
900/230	....	....	.94	.95	....	....

Current Prices

"Chromspun"*—Black

Denier & Filament	Regular Twist Cones	Intermediate Twist Cones	Intermediate Twist Beams	Low Twist & Spun Twist Beams
55/13	$1.19	$1.17	$1.18	$1.12
75/19	1.16	1.14	1.15	1.09
100/25	1.10	1.08	1.09	1.03
150/38	.93	.91	.92	.87
200/50	.87	.85	.86	.82
300/75	.83	.81	.82	.78
450/114	.81	.79	.80	.76
900/230	.76	.74	.75	....

Prices are subject to change without notice.

Prices on special items quoted on request.

Terms: Net 30 days. Payment—U. S. A. dollars.

Transportation charges prepaid or allowed to destination in the United States east of Mississippi River. Seller reserves right to select route and method of shipment. If Buyer requests and Seller agrees to a route or method involving higher than lowest rate Buyer shall pay the excess of transportation cost and tax.

* "Estron" and "Chromspun" are trade-marks of the Eastman Kodak Co.

RAYON STAPLE and TOW

American Viscose Corp.

Current Prices

Rayon Staple

	Bright and Dull
Regular	$ .29
Extra Strength	
1.0 Denier	.34
"Viscose 32A"	.36
"Avisco Crimped"	
1.25 Denier	.34
3.0 & 5.5 Deniers	.31
8.0 & 15.0 Deniers	.33
"Avisco Super L"	
8.0, 15.0 & 22.0 Deniers	.35
Short Staple Blend	.32

Rayon Tow

Grouped Continuous Filaments (200,000 Total Denier)	
1.5, 3.0 & 5.5 Denier Per Filament	.32
9.0 Denier Per Filament	.34
Grouped Continuous Filaments (4400/300 & 2000/1500)	.65

Prices of other descriptions on request.

Terms: Net 30 days.

Celanese Corp. of America

Current Prices

Rayon Tow

	Bright & Dull
1.5, 3, 5 D.P.F.	.32
8 D.P.F.	.34

Courtaulds (Alabama) Inc.

Effective March 1, 1957

Rayon Staple

	Bright	Dull
1½ and 3 denier	$.29	$.29

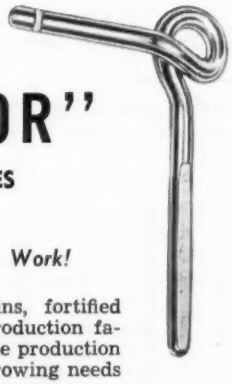
Available in 1⅛", 1-9/16" and 2".

New Claremont Line

Claremont Knittings Mills, Inc., New York, is offering a completely new line of high-fashion Ban-Lon interlock dressmaker style sweaters for women and misses to the wholesale trade, and a full line of Ban-Lon classic slipons and cardigans for girls as well as women and misses.

Specify

COLLINS "IRRIDIOR"



THREAD GUIDES

the finest in Hard Chromium Plated Work!

For over 35 years—Collins, fortified with the technique and production facilities, has pioneered in the production of wire work to suit the growing needs of the textile industry.

And today, Collins "Irridior" Thread Guides are "tops" in the processing of Nylon and Rayon threads—because "Irridior" means harder, denser chrome-plating designed to last longer.

"For those who prefer Matte or Sandblast finish, try our Irridior Matte Finish F75."

COLLINS SUPPLY & EQUIPMENT CO.

1357-97 Monsey Ave. Scranton 2, Pa.

The Laurel Leaf

BUSINESS MAGAZINE EDITION

YOU SHOULD KNOW ABOUT THE NEW, IMPROVED LAUREL SOFTENER 3BH SPECIAL

Here's good news for producers of Orlon and Acrilon fiber and yarns. Now, for the first time, you can greatly reduce troublesome fly and lint formation at the pin drafters and during subsequent processing, and at the same time obtain a better, smoother running knitting yarn.

These features tell why this job-proved Laurel *Quality* Products will do the job *better* for you!

- No adverse effect in subsequent drawing and spinning.
- Excellent stability and uniformity: it's *double* homogenized:
- Of low viscosity . . . may be used without dilution if desired.
- Has no adverse effect on shades . . . highly resistant to discoloration and odor formation in storage.
- Completely saponifiable for easy scouring.

Ask your Laurel Sales Representative to provide complete facts, details and a generous sample of this newest Laurel *Quality* Product.

A good time to do it is now!

Laurel Brand

Laurel SOAP MANUFACTURING CO., INC.
TIOGA, THOMPSON & ALMOND STS., PHILA. 34, PA.

Warehouses: Paterson, N. J., Chattanooga, Tenn., Charlotte, N. C.

"Coloray" Spun Dyed Rayon Staple

	1½ Den. 1-9/16"	3 Den. 2"	4½ Den. 6"	Price per Lb.
	(Code numbers for color and denier)			
Black	1404	1419	1425	37¢
Tan	8004	8019	8025	39¢
Medium Brown	8804	8819	8825	39¢
Silver Grey	1004	1019	1025	39¢
Terra Cotta	8204	8219	8225	39¢
Khaki	3004	3019	3025	40¢
Dark Brown	8604	8519	8525	40¢
Slate Grey	0804	0819	0825	43¢
Light Blue	4004	4019	4025	44¢
Sulphur	2004	2019	2025	44¢
Apple Green	5104	5119	5025	45¢
Peacock Blue	4604	4619	4625	46¢
Medium Blue	4204	4219	4225	48¢
Dark Blue	4404	4419	4425	49¢
Hunter Green	5404	5419	5425	49¢
Indian Yellow	2504	2519	2525	49¢
Pink	6004	6019	6025	50¢
Turquoise	4804	4819	4825	50¢
Malachite Green	5204	5219	5225	51¢
Red	7004	7019	7025	56¢

(In addition to the above, Black is also available in:
1½ den. 1⅛" (1401) 3 den. 1-9/16" (1416) 4½ den. 2"
3 den. 1⅛" (1413) 3 den. 2½" (1420) 4½ den. 4")

Terms: Net 30 days, f.o.b. LeMoyne, Alabama. Minimum transportation allowed to points in U.S.A. east of Mississippi River.

The Hartford Rayon Co.

Div. Bigelow-Sanford Carpet Co., Inc.

Rayon Staple

Effective February 8, 1956

REGULAR

1.5 denier Bright
1½" and 2" ..... Withdrawn

VISCALON 44

15 denier 3" Dull ..... Withdrawn

VISCALON 66 (Crimped)

8 denier 3" Bright ..... 33¢
15 denier 3" Bright ..... 33¢
15 denier 3" Dull ..... 33¢

"KOLORBON"—Solution Dyed Rayon Staple—3" and 6"

	8 Denier Bright	15 Denier Dull	15 Denier Bright
Cloud Grey	45¢	45¢	....
Sandalwood	45¢	45¢	....
Nutria	45¢	45¢	....
Sea Green	45¢	45¢	....
Mint Green	45¢	45¢	....
Champagne	45¢	45¢	....
Cafe Brown	55¢	....	55¢
Midnight Black	45¢	....	45¢
Gold	48¢	48¢	....
Turquoise	45¢	45¢	....
Melon	48¢	48¢	....
Capri Blue	45¢	45¢	....
Charcoal Grey	45¢	45¢	....
Coco	46¢	46¢	....
Sable	....	....	47¢

Terms: Net 30 days. Prices are quoted f.o.b. shipping point, lowest cost of transportation allowed, or prepaid. To points West of the Mississippi, lowest cost of transportation allowed to the Mississippi River crossing.

ACETATE STAPLE and TOW

Celanese Corp. of America

Current Prices

Staple

Celanese Acetate Staple	Bright & Dull
2, 3, 5.5 & 8 Individual Deniers	$.32
12 & 17 Individual Deniers	.33
35 & 50 Individual Deniers	.36
⅝" to ⅞" cut length (all deniers)—Premium	.03
Variable Acetate Fibers	.30
35 Individual Denier Flat Filament Acetate	.38

Tow

Celanese Celatow Acetate	Bright & Dull
2, 3, 5.5 & 8 Individual Deniers	$.34
12 & 17 Individual Deniers	.35
35 & 50 Individual Deniers	.37

Terms: Net 30 days. Prices per pound F.O.B. shipping point, lowest transportation allowed to destination in U.S.A. east of the Mississippi River.

Prices subject to change without notice.
All previous prices withdrawn.

NON CELLULOSIC YARN

NYLON

Allied Chemical and Dye Corporation

Caprolan®†

Effective April 15, 1957

Denier	Filament	Turn/In.	Twist	Type**	Package	1st Grade Price/Lb	2nd Grade Price/Lb
200	32	¾	Z	B	Bobbin	$1.49	$1.44
210	32	1	Z	HB	Bobbin	1.49	1.44
560	32	1	Z	HB	Aluminum Tube	1.39	1.29
840	136	½	Z	HBT	Aluminum Tube	1.30	1.20
840	136	½	Z	HBT	Beams	1.30	1.20
Heavy Yarn							**Price/Lb.**
2100	408	0	O	HB	Paper Tube*		$1.27
2100	112	0	O	HB	Paper Tube*		1.30
2500	408	0	O	HB	Paper Tube*		1.27
3360	544	0	O	HB	Paper Tube*		1.26
4200	680	0	O	HB	Paper Tube*		1.26
4200	224	0	O	HB	Paper Tube*		1.29
5000	816	0	O	HB	Paper Tube*		1.25
5000	280	0	O	HB	Paper Tube*		1.28
5800	952	0	O	HB	Paper Tube*		1.25
7500	1224	0	O	HB	Paper Tube*		1.24
10000	1632	0	O	HB	Paper Tube*		1.24
15000	2448	0	O	HB	Paper Tube*		1.23

Terms—Net 30 days.
Prices subject to change without notice.
All prices quoted F.O.B. Shipping Point.
Following are invoiced as a separate item.
Bobbins—45 cents each.
Aluminum Tubes—40 cents each.
Beams—$220.00 each.
Cradles for Beams—$53.00.

B—Bright.
H—High Tenacity.
T—Heat Stabilized.

* Paper Tubes non-returnable, no charge.
** Type is used to describe luster and tenacity

Lowest freight cost prepaid or allowed east of Mississippi River, for points west of the Mississippi River freight allowed to the Mississippi River crossing nearest purchaser's mill if shipped overland, or port of exit of purchaser's choice east of Mississippi River.

† Allied Chemical's polyamide fiber.

American Enka Corporation

Nylenka Filament Yarn Prices

Effective December 21, 1956

Denier & Filament	Twist	Luster	Tenacity	Package	Yarn Weight per Package	Price per Pound, Std.	Price per Pound, Sub.
15/1	0.5Z	semi-dull	Normal	Pirn	1 lb.	$5.25	$5.00
30/6	0.5Z	semi-dull	Normal	Pirn	2 lb.	2.36	2.21
40/8	0.5Z	semi-dull	Normal	Pirn	2 lb.	2.01	1.81
50/13	0.5Z	semi-dull	Normal	Pirn	2 lb.	1.91	1.76
100/24	0.5Z	semi-dull	Normal	Pirn	2 lb.	1.65	1.60
100/32	0.5Z	semi-dull	Normal	Pirn	2 lb.	1.65	1.60
200/34	0.5Z	bright	Normal	Pirn	2 lb.	1.49	1.44
200/34	0.5Z	bright	Normal	Cone	4 lb.	1.49	1.44
210/34	0.5Z	bright	High	Pirn	2 lb.	1.49	1.44
210/34	0.5Z	bright	High	Cone	4 lb.	1.49	1.44
840/140	0.5Z	bright	High	Pirn	2 lb.	1.30	1.20
840/140	0.5Z	bright	High	Cone	4 lb.	1.30	1.20
840/140	0.5Z	bright	High	Beam	—	1.30	1.20

Pirns charged at $.25 each. Deposit refunded upon return of pirn in good condition. Cones are non-returnable. Beams and cradles are deposit carriers and remain property of American Enka Corporation.

Terms: Net 30 days. Minimum common carrier transportation charges will be prepaid and absorbed to the first destination on or east of the Mississippi River. In prepaying transportation charges, seller reserves the right to select the carrier used.

The Chemstrand Corp.

Current Prices

Effective December 19, 1956

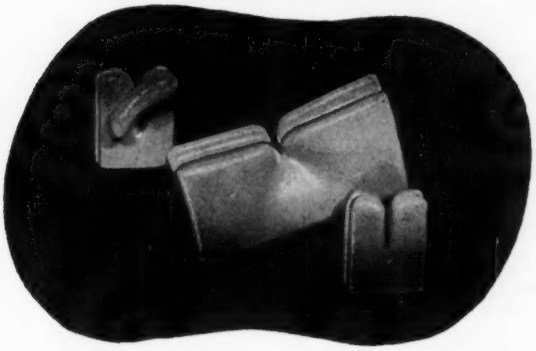
Denier	Filament	Twist	Type*	Package	Standard	Second
10	1	O	SD	Bobbins	$8.42	$7.81
15	1	O	SD	Bobbins	5.25	5.00
15	1	O	D	Bobbins	5.30	5.00
15	1	O	D	Spools	5.41	....
30	10	Z	SD	Bobbins	2.36	2.21
30	10	Z	HSD	Bobbins	2.36	2.21
30	26	Z	SD	Bobbins	2.49	2.21
40	7	Z	SD	Bobbins	2.11	1.81
40	13	Z	SD	Bobbins	2.01	1.81
40	13	Z	SD	Spools	2.11	....
40	13	Z	D	Bobbins	2.06	1.81
40	13	Z	D	Spools	2.16	....
50	17	Z	SD	Bobbins	1.91	1.76
70	34	Z	SD	Bobbins	1.71	1.66
70	34	Z	B	Bobbins	1.71	1.66
70	34	Z	D	Spools	1.86	....
80	26	Z	SD	Bobbins	1.71	1.56
100	34	Z	SD	Bobbins	1.65	1.60
100	34	Z	HB	Bobbins	1.70	1.60
140	68	Z	SD	Bobbins	1.60	1.55
200	34	Z	B	Bobbins	1.49	1.44
200	68	Z	SD	Bobbins	1.56	1.46
210	34	Z	HB	Bobbins	1.49	1.44
210	34	Z	HB	Spools	1.54	....
210	34	Z	HB	Beams	1.54	....
260	17	Z	HB	Bobbins	1.49	1.39
260	17	Z	HB	Spools	1.54	....
420	68	Z	HB	Bobbins	1.39	1.29
630	102	Z	HB	Bobbins	1.39	1.29
840	136	Z	HB	Tubes	1.34	1.24
840	140	Z	HB	Beams	1.30	1.20
840	140	Z	HB	Tubes	1.30	1.20

*Types: D—Dull; SD Semi-dull; B—Bright; H—High tenacity.

Bobbins are invoiced at 25¢ or 45¢ each, depending on type; tubes are invoiced at 40¢ each; spools invoiced at $77.00 and $95.00 depending on type; and beams and crates for beams are invoiced at $220 and $25 respectively.

Prices subject to change without notice.

Knowledge comes from taking things apart—
wisdom from putting them together.



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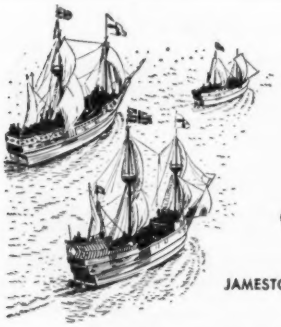

Early Settlers

JAMESTOWN, VIRGINIA • 1607-1957

Founded in 1873, DIAMOND FINISH is the oldest — and largest — exclusive ring plant in America. This is important only because it assures you the benefits of an unequalled background of experience based on the most extensive line of Rings available.

1873 *1957*

WHITINSVILLE (MASS.)
SPINNING DIAMOND FINISH **RING CO.**
Makers of Spinning and Twister Rings since 1873

Rep. for the Carolinas & Va.: W. K. SHIRLEY, P.O. Box 406, Belmont, N. C.
For Ala., Ga., & Tenn.: P. C. EVERETT, 369 Meadowbrook Dr. NE, Atlanta

What powder does for her nose, TITANOX* does for her clothes...

. . . eliminates the sheen—so she's slick, not shiny.

The pleasing surface of today's synthetic-fiber fabrics represents TITANOX titanium dioxide pigments in action, *permanently* delustering all synthetic fibers.

TITANOX titanium dioxides have the fine particle size and high refraction that reduce surface luster.

Our Technical Service Department can help you select the best type of TiO_2 for your product. Titanium Pigment Corporation, 111 Broadway, New York 6, N. Y.; Atlanta 5; Boston 6; Chicago 3; Cleveland 15; Houston 2; Los Angeles 22; Philadelphia 3; Pittsburgh 12; Portland 14, Ore.; San Francisco 7. In Canada: Canadian Titanium Pigments Limited, Montreal 2; Toronto 1; Vancouver 2.

TITANIUM PIGMENT CORPORATION
***subsidiary of* National Lead Company**

*TITANOX is a registered trademark for the full line of titanium pigments offered by Titanium Pigment Corporation.

4901

E. I. du Pont de Nemours & Co.

Textile Fibers Dept.

Current Prices

Nylon Yarn

Denier & Filament	Turns/Inch & Twist	Type	Package	1st Grade	2nd Grade
7-1	0	200	Bobbin	$9.47	$8.82
10-1	0	200	Bobbin	8.42	7.82
12-1	0	200	Bobbin	7.35	6.85
15-1	0	200	Tricot Bms.	5.36	....
15-1	0	200	Bobbin	5.25	5.00
15-1	0	680	Tricot Bms.	5.41	....
15-1	0	680	Bobbin	5.30	5.00
20-1	0	200	Bobbin	4.42	4.12
20-7	0.5Z	200	Bobbin	2.91	2.61
20-7	0.5Z	200	Tricot Bms.	3.02	....
20-7	0.5Z	680	Bobbin	2.96	2.61
20-7	.05	680	Tricot Bms.	3.07	....
20-20	0.7Z	209	Bobbin	6.00	....
30-10	0.5Z	200	Bobbin	2.36	2.21
30-10	0.5Z	200	Tricot Bms.	2.46	....
30-10	0.5Z	680	Bobbin	2.41	2.21
30-10	0.5Z	680	Tricot Bms.	2.51	....
30-26	0.5Z	200	Bobbin	2.49	2.21
40-7	0.5Z	200	Bobbin	2.11	1.81
40-13	0.5Z	200	Bobbin	2.01	1.81
40-13	0.5Z	200	Tricot Bms.	2.11	....
40-13	0.5Z	400	Bobbin	2.13	1.90
40-13	0.5Z	670/680	Bobbin	2.06	1.81
40-13	0.5Z	670/680	Tricot Bms.	2.16	....
40-34	0.5Z	200	Bobbin	2.21	1.81
50-17	0.5Z	200	Bobbin	1.91	1.76
50-17	0.5Z	680	Bobbin	2.01	1.76
70-17	0.5Z	200	Bobbin	1.71	1.66
70-34	0.5Z	100/200	Bobbin	1.71	1.66
70-34	0.5Z	300	Bobbin	1.76	1.66
70-34	0.5Z	680	Bobbin	1.76	1.66
80-26	0.5Z	200	Bobbin	1.71	1.56
100-34	0.5Z	200	Bobbin	1.65	1.60
100-34	0.5Z	300	Bobbin	1.70	1.60
100-34	0.5Z	680	Bobbin	1.70	1.60
100-50	0.5Z	200	Bobbin	1.71	1.60
140-68	0.5Z	200	Bobbin	1.60	1.55
140-68	0.5Z	300	Bobbin	1.65	1.55
200-34	0.7Z	100	Bobbin	1.49	1.44
200-34	0.7Z	680	Bobbin	1.54	1.44
200-68	0.7Z	200	Bobbin	1.56	1.46
210-34	0.7Z	300	Bobbin	1.49	1.44
210-34	0.7Z	300	Beam	1.54	....
210-34	0.7Z	330	Bobbin	1.59	1.44
260-17	1Z	100/300	Bobbin	1.49	1.39
400-68	0.7Z	100	Bobbin	1.39	1.29
420-68	1Z	300	Bobbin	1.39	1.29
780-51	0.7Z	300	Bobbin	1.39	1.29
800-140	0.5Z	100	Bobbin	1.39	1.29
840-140	0.5Z	300/700	Al. Tbs/Beam	1.30	1.20

Color-Sealed Yarn

Denier & Filament	Turns/Inch & Twist	Type	Package	1st Grade	2nd Grade
70-34	0.5Z	140	Bobbin	$2.06	$2.01
200-34	0.7Z	140	Bobbin	1.84	1.79
260-17	1Z	140	Bobbin	1.84	1.79

Industrial Yarn

				Price/Lb.
2520-420	0	300/700	Paper Tube	$1.27
4200-700	0	300/700	Paper Tube	1.25
5040-840	0	300/700	Paper Tube	1.25
7560-1260	0	300/700	Paper Tube	1.24
10080-1680	0	300/700	Paper Tube	1.24
15120-2520	0	300/700	Paper Tube	1.23

These prices are subject to change without notice. Terms: Net 30 Days.

Types

Type 100—Bright, normal tenacity.
Type 140—Bright, color-sealed, black, normal tenacity.
Type 200—Semidull, normal tenacity.
Type 209—Semidull, normal tenacity.
Type 300—Bright, high tenacity.
Type 400—Semidull, high tenacity.
Type 670—Dull, normal tenacity.
Type 680—Dull, normal tenacity.
Type 700—Bright, high tenacity.

Freight Terms—Terms are F.O.B. shipping point, freight prepaid our route to points east of the Mississippi River within the continental limits of the United States, for points west of the Mississippi River freight allowed to the Mississippi River crossing nearest purchaser's mill if shipped overland, or port of exit of purchaser's choice east of Mississippi River.

Following are invoiced as a separate item.
Bobbins—25 cents or 45 cents depending on type
Aluminum Tubes—40 cents each
Tire Cord Beams—$220.00 each
Cradles for Tire Cord Beams—$115.00 each
Tricot Beams—$95.00 each
Cradles for Tricot Beams—$130.00 each
(Beams and Cradles are deposit carriers and remain the property of E. I. du Pont de Nemours & Co., Inc.)

POLYESTER E. I. du Pont de Nemours & Co.

Textile Fibers Dept.

Current Prices

"Dacron"*

Denier & Filament	Turns/Inch	Luster	Type*	Tubes 1st Gr.
30-20	0	Dull	57	$2.86
40-27	0	Semidull	56	2.41
40-27	0	Bright	55	2.41
40-27	0	Dull	57	2.46
70-34	0	Semidull	56	$2.01
70-14	0	Bright	55	2.01
70-34	0	Bright	55	2.01
70-34	0	Dull	57	2.06
100-34	0	Semidull	56	$1.94
140-28	0	Bright	55	1.89
150-34	0	Semidull	56	1.91
220-50	0	Bright	51	1.84
250-50	0	Bright	55	1.86
1100-250	0	Semidull	59	$1.50
1100-250	0	Bright	51	1.50

Terms: Net 30 Days.

Domestic Freight Terms are F.O.B. shipping point, freight prepaid our route to points east of the Mississippi River within the continental limits of the United States, for points west of the Mississippi River freight allowed to the Mississippi River crossing nearest purchaser's mill if shipped overland, or port of exit of purchaser's choice east of Mississippi River.

Yarn Types

* Type:
Type 51—Bright, high tenacity.
Type 55—Bright, normal tenacity.
Type 56—Semidull, normal tenacity.
Type 57—Dull, normal tenacity.
Type 59—Semidull, high tenacity.

Tubes are invoiced as a separate item at $.70 each. The only exception to this is an $.80 charge on the tubes used for 30 Denier Dull.

All tubes are returnable for credit.

* "DACRON" is DuPont's registered trade-mark for its polyester fiber.

NON CELLULOSIC STAPLE & TOW

ACRYLIC

The Chemstrand Corp.

Current Prices

"Acrilan"

2.0 denier Semi-dull staple and tow	$1.18
2.5 denier Hi-Bulk Bright and Semi-dull staple and tow	1.12
3.0 denier Bright & Semi-dull staple and tow	1.12
5.0 denier Bright & Semi-dull staple and tow	1.12
8.0 denier Bright and Semi-dull staple and tow	1.12

Terms: Net 30 days. Freight prepaid to points east of the Mississippi River.

Union Carbide Chemicals Co.

Div. Union Carbide Corp.

Textile Fibers Dept.

Effective November 1, 1955

Dynel Staple

Natural Dynel	
3, 6, 12, and 24 Denier, Staple and Tow	$1.05 per lb.
Whitened Dynel, and Dynel Spun with Light Colors: Blonde, or Gray	
3 and 6 Denier, Staple and Tow	1.20 per lb.
Dynel Spun with Dark Colors: Black, Charcoal, and Brown	
3 and 6 Denier, Staple and Tow	1.30 per lb.

Prices are quoted f.o.b. South Charleston, W. Va.

E. I. du Pont de Nemours & Co.

Textile Fibers Dept.

Current Prices

"Orlon"** Acrylic Staple & Tow

Type 42	1st Grade
1.0 Denier Semidull & Bright—Staple only	$1.48
2.0 Denier Semidull	1.33
3.0 Denier Semidull & Bright	1.28
3.0 Denier Semidull Color-sealed Black	1.63
6.0 Denier Semidull & Bright	1.20
4.5 Denier Semidull	1.20
10.0 Denier Semidull	1.20

Tow—Total Denier 470,000
Staple Lengths—1½", 2", 2½", 3", 4½"
High Shrinkage Staple same price as Regular Staple

Type 39 $1.06

This product is designed for *woolen system spinning* and is a blend of predominately heavy deniers (average 4.2) with a variable cut length.

F.O.B. Shipping Point—Freight prepaid our route to points east of the Mississippi River within the continental limits of the United States, for points west of the Mississippi River freight allowed to the Mississippi River crossing nearest purchaser's mill if shipped overland, or port of exit of purchaser's choice east of Mississippi River.

Terms: Net 30 Days.

** "ORLON" is DuPont's registered trade-mark for its acrylic fiber.

Eastman Chemical Products, Inc.
Tennessee Eastman Co.

Effective November 15, 1956

"Verel"*

Deniers	Dull and Bright
2, 3, 5 and 8	$1.10 per pound

Prices are subject to change without notice.

Terms: Net 30 days. Payment—U. S. A. dollars.

Transportation charges prepaid or allowed to destination in the United States east of the Mississippi River. Seller reserves the right to select route and method of shipment. If buyer requests and seller agrees to a route or method involving higher than lowest rate buyer shall pay the excess of transportation cost and tax.

* "Verel" is a trade-mark of the Eastman Kodak Co.

NYLON

American Enka Corp.

Nylenka (Nylon Six Staple)

Denier	Luster	Length (Inches)	Price per pound
3	semi-dull	1⅛, 1½, 2, 2⅝, 3, 4½	$1.28
6	bright	3, 4½	1.28
8	bright	2⅝	1.20
10	bright	3	1.20
15	bright	3	1.20

Deniers and lengths of staple not listed above are available upon special request.

Terms: Net 30 days. Minimum common carrier transportation charges will be prepaid and absorbed to the first destination on or east of the Mississippi River. In prepaying transportation charges, seller reserves the right to select the carrier used.

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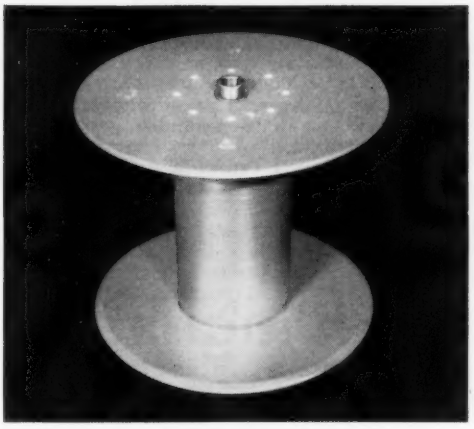

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NEW FABRICS

NEW YARNS

'Barefoot' Boudoir Rug

A "barefoot" rug for bath and boudoir, with a deep piled, fur-like fabric is being offered by Cabin Crafts-Needletuft, Inc. Called "Caresse," the rug is a knitted construction of 80 percent Acrilan and 20 percent other acrylic fiber. The fibers are not spun into yarn but are transferred directly from carding machines to knitting machines, and are of several different deniers that result in a multi-level pile. The fabric has the resiliency characteristic of Acrilan fiber, is said to be machine washable and can be machine dried. The rugs are also reported to be mothproof, mildew-resistant, non-flammable, non-shedding and non-allergenic. (See picture on page 45)

Wash-and-Wear Fabric

Borlan Corp. has announced development and production of "Travelaire," described as a completely new automatic wash-and-wear fabric. The fabric, it is reported, can be made into garments which can be home-machine washed and dried and ready for wear, all in 40 minutes, without ironing. The fabric, which also can be dry cleaned, has been tested and approved by the Du Pont Co., according to Borlan. The speedy wash-and-wear properties are said to have been made possible by the special Borlan rigid set process blending 65% Du Pont Dacron polyester fiber with 35% combed cotton.

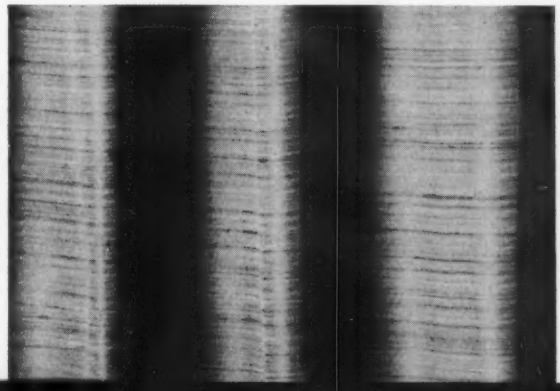
High Density Felts

A line of high density felts called Feutron "63," has been introduced by American Felt Co. The new line is expected to be of interest to design engineers and industrial researchers. Feutron "63," engineered materials of 100% synthetic fiber construction, are said to combine effectively the three-dimensional physical characteristics of wool felt with additional resistance properties of specific synthetic fibers. New manufacturing techniques, using chemical shrinkage methods, are reported to have made possible production of synthetic felts in higher densities than could be obtained previously by mechanical interlocking of fibers. *For further information write the editors.*

Cupracolor Novelty Yarns

American Bemberg is offering solution-dyed novelty yarns called Cupracolor in two Bemberg yarns, Cupioni and Strata. They are reported to have the hand, texture, and luster of fine Douppioni silk. The Cupioni slub yarn is available in three deniers, 150, 275 and 900, and Strata in two, 600 and 900. The yarns come in 14 colors. Cupioni and Strata may be combined with warps of cotton, rayon, Bemberg, acetate, nylon, Fortisan, or any of the newer synthetics, in fabric weights suitable for curtains, draperies, bedspreads, and upholstery. *For further information write the editors.*

Cupracolor Novelty Yarn in Drapery Fabric



E. I. du Pont de Nemours & Co.

Textile Fibers Dept.
Current Prices

Nylon Staple and Tow

Denier	Type	Staple Lengths	Tow Bundle	Price/Lb.
1.5	200	1⅛"—4½"	None made	$1.33
1.5	201	1⅛"—4½"	None made	1.35
3.0	100/200	1⅛"—4½"	430M	1.28
3.0	101/201	1⅛"—4½"	455M	1.30
6.0	100	1⅛"—4½"	330M	1.28
6.0	101	1⅛"—4½"	345M	1.30
15.0	100	1½"—6½"	330M	1.20
15.0	101	1½"—6½"	None made	1.22

Staple lengths are restricted to the range shown opposite each denier above. The actual cut lengths within these ranges are as follows:

1⅛, 1½, 2, 2½, 3, 4½ and 6½

Types

Type 100 Bright, normal tenacity, not crimpset.
Type 101 Bright, normal tenacity, crimpset.
Type 200 Semidull, normal tenacity, not crimpset.
Type 201 Semidull, normal tenacity, crimpset.
These prices are subject to changes without notice.
Terms—Net 30 Days.
Freight Terms—Terms are F.O.B. shipping point, freight prepaid our route to points east of the Mississippi River within the continental limits of the United States, for points west of the Mississippi River freight allowed to the Mississippi River crossing nearest purchaser's mill if shipped overland, or port of exit of purchaser's choice east of Mississippi River.

Industrial Rayon Corp.

Effective November 29, 1956

Nylon Staple

1.5 denier	$1.33 per lb.
2, 3 and 6 denier	1.28 per lb.
8 and 15 denier	1.20 per lb.

Bright and semi-dull, required length.
Terms: Net 30 days f.o.b. point of shipment; title to pass to buyer on delivery of goods to carrier. Domestic transportation charges prepaid with transportation allowed at lowest published rate to all points east of the Mississippi River.

POLYESTER

E. I. du Pont de Nemours & Co.

Textile Fibers Dept.
Current Prices

"Dacron"* Staple and Tow

Denier	Luster	Type	Length	Tow Bundle	1st Gr.
1.25	Semidull	54	1¼"-3"	....	$1.56
1.5	Semidull	54	1¼"-3"	....	1.51
3.0	Semidull	54	1¼"-4½" & Tow	375M-500M	1.41
4.5	Semidull	54	1¼"-4½" & Tow	375M-500M	1.41
6.0	Semidull	54	1¼"-4½" & Tow	375M-500M	1.41

Terms: Net 30 Days.
F. O. B. Shipping Point—Freight prepaid our route to points east of the Mississippi River within the continental limits of the United States, for points west of the Mississippi River freight allowed to the Mississippi River crossing nearest purchaser's mill if shipped overland, or port of exit of purchaser's choice east of Mississippi River.

POLYVINYL ACETATE

American Viscose Corp.

Effective October 1, 1956

"Vinyon"® Staple

3.0 denier ½" unopened	$.80 per lb.
3.0 " 1¼" unopened	.80 per lb.
3.0 " 1¼" opened	.90 per lb.
3.0 " 2" opened	.90 per lb.
3.0 " 2" unopened	.80 per lb.
5.5 " 1" opened	.90 per lb.
5.5 " 3½" opened	.90 per lb.
5.5 " 3½" unopened	.80 per lb.

Terms: Net 30 days.

PROTEIN

Virginia-Carolina Chemical Corp.

Fiber Division
Effective January 15, 1951

"Vicara" Staple

	Standard Crimp	Highly Crimped
3 Denier	$1.00 per lb.	$1.05 per lb.
5 Denier	1.00 per lb.	1.05 per lb.
7 Denier	1.00 per lb.	1.05 per lb.

Bleached "Vicara" Staple

	Standard Crimp	Highly Crimped
3 Denier	$1.10 per lb.	$1.15 per lb.
5 Denier	1.10 per lb.	1.15 per lb.
7 Denier	1.10 per lb.	1.15 per lb.

Staple length ½ to 6 in.
Supplied in staple lengths or as continuous tow (270,000 filaments).
Terms: Net 30 days.
Prices f.o.b. Taftville, Conn. on 10% moisture regain basis.

Electronic Data Machine in Textiles

United Merchants and Manufacturers, Inc., has placed a new electronic data processing machine in operation at its New York quarters. The computer—an IBM 305 model "A" Ramac (Random Access Method of Accounting and Control)—is reported to be the first of its type put in use in the textile industry. UM&M, a manufacturer and distributor of textiles, is using the machine initially to solve the complex problems of merchandising control of its converting operations.

While the computer cannot act as a style prophet, forecasting the public's future interest for certain fabrics, colors or textures, it can supply information regarding sales activity of different colors, designs and textures in all parts of the country with extreme rapidity and accuracy, according to the company.

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Calendar of Coming Events

Sep. 4-6—Fiber Society and Textile Institute meeting. Hotel Statler, Boston, Mass.
Sep. 11—AATT monthly meeting. Hotel Vanderbilt, New York, N. Y.
Sep. 12—AATCC Northern New England Section outing. Wachusett Country Club, W. Boylston, Mass.
Sep. 19-20—Textile Quality Control Association fall meeting. Hotel Barringer, Charlotte, N. C.
Sep. 25-26—Northern Textile Association annual meeting. Wentworth-by-the Sea, Portsmouth, N. H.
Sep. 26-28—Combed Yarn Spinners Association annual meeting. The Cloister, Sea Island, Ga.
Sep. 27—AATCC Delaware Valley and New York Sections joint meetings. Hotel Hildebrecht, Trenton, N. J.
Sep. 27-28—Carded Yarn Association annual meeting. The Cloister, Sea Island, Ga.
Sep. 28—Textile Operating Executives of Georgia fall meeting. Georgia Institute of Technology, Atlanta, Ga.
Oct. 2—AATT monthly meeting. Hotel Vanderbilt, New York, N. Y.
Oct. 2-3—National Cotton Council of American Chemical Finishing Conference. Hotel Statler, Washington, D. C.
Oct. 7-9—Institute of Textile Technology, Charlottesville, Va. Technical Advisory Committee and Board of Trustees meetings.
Oct. 10-11—Southern Textile Methods & Standards Association fall meeting. Clemson House, Clemson, S. C.
Oct. 12—Textile Operating Executives of Alabama fall meeting. Thach Auditorium, Auburn, Ala.
Oct. 15-18—Committee D-13 A.S.T.M. fall meeting. Sheraton McAlpin Hotel, New York, N. Y.
Oct. 28-31—National Industrial Packaging and Handling Exposition. Convention Hall, Atlantic City, N. J.
Nov. 6—AATT monthly meeting. Hotel Vanderbilt, New York, N. Y.
Nov. 14-16—AATCC National Convention and Exhibition. Hotel Statler, Boston, Mass.

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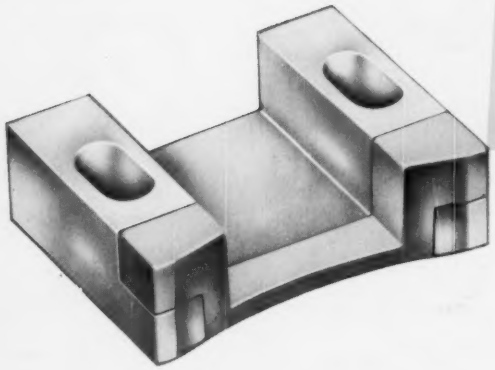

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